

Automotive Light Sources

Release 2007



CML

INNOVATIVE TECHNOLOGIES

WHERE INNOVATION COMES TO LIGHT



CML Innovative Technologies is leading in innovative lighting solutions ; our 1350 employees are specifically dedicated to the design, production and distribution of miniature light sources and miniature lighting systems. Our worldwide operations and know-how allow us to continually exceed our customers requirements.

CML Innovative Technologies est leader en solutions innovantes d'éclairage ; nos 1350 collaborateurs sont dédiés à la conception, la production et la distribution de sources et de systèmes lumineux. Notre savoir-faire et nos implantations mondiales nous permettent de mieux servir nos clients et de répondre aux niveaux d'exigences les plus élevées.



CML Innovative Technologies ist der führende Hersteller für innovative Beleuchtung ; unsere 1350 Mitarbeiter sind tätig in Entwicklung, Produktion und Vertrieb von Beleuchtungsquellen und –Systemen. Unsere Erfahrung und unsere weltweiten Standorte machen es möglich, unseren Kundenservice stets zu verbessern und auch für die höchsten Ansprüche eine optimale Lösung zu finden.

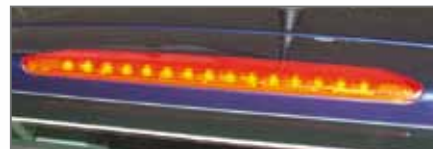
CML Innovative Technologies è leader in soluzioni innovative d'illuminazione ; i nostri 1350 collaboratori sono dedicati alla concezione, la produzione e la distribuzione di sorgenti e di sistemi luminosi. Il nostro know-how e le nostre aziende mondiali permettono di servire meglio i nostri clienti e rispondere a livelli di esigenze più elevate.

Lamps

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Socketed lamps

Twistlock.....24
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Upon request our engineering department can provide additional services for many types of our products portfolio. Please contact us for further information.

Custom lighting solutions. Based on customer's specifications, we can assemble, crimp or solder any type of light sources on a stamping circuit or a Printed Circuit Board.

Electrical circuit type	Lamp Type	Light source type Socketed Lamp Type	LED Type
Stamping circuit	Wedge base	Twistlock / EBS / PC (some) / Connector pins	PLLC2 / PLLC4
PCB	Wire Terminal	Twistlock / SMD / EBS / PC	PLLC2 / PLLC4 Through-hole

Services to customize the lamps light output:

- For colored light output: silicon color caps or lacquering of the glass body,
- For better light homogeneity: frosting of the glass body,
- For focusing the light output: designed with a lens.

Service to customize the design and the perceived quality of the final application:

- Various socket colors available to facilitate the component's integration or maintenance,
- Different gas-filling available to improve the brightness or the lifetime.

Surface treatments:

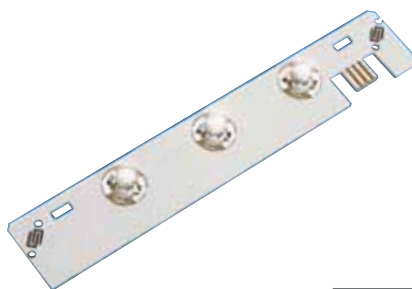
- Tinning for a better electrical conductivity, a protection against corrosion and a easier soldering process,
- Galvanization for a better adherence, impermeability, and mechanical resistance

Service to adapt the product to your industrial process:

- Torsion of pins in a right-angle position,
- Delivery on tape or reel,
- Specific packaging: customization of the boxes or blisters with an ad-hoc labeling.

CML Innovative Technologies respects the European regulation EC/2002/95:

all our products are lead free manufactured so as to comply with the directive in force.





Our competitive advantage relies on the in-house manufacturing of the lamp filament. It converts electrical energy into light.

Filament shapes:

Straight wire (no coils) ~ up to around 2V



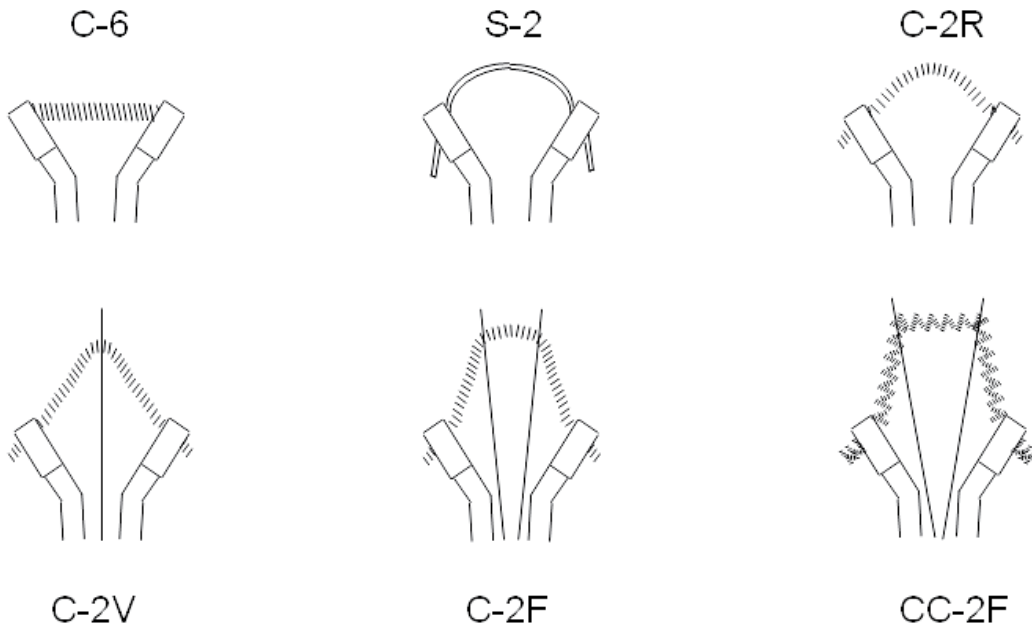
Single coil ~ up to around 28 or 36V



Coiled coil ~ over 28 or 36V

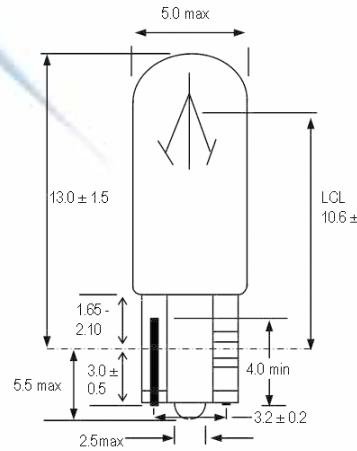


Filament mounting: (ANSI coding)



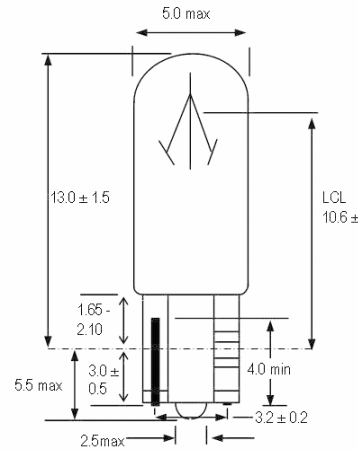
The factor determining the filament shape is primarily the voltage of the lamp in relationship to the size of the glass bulb. For any given rating, the filament shape changes according to the size of bulb.





V	W	A	Light Output (Lm)	Filling	Life Hours
6,75	1,2	0,178	7,5	Vacuum	1500
	2,1	0,315	12,5	Vacuum	4000
12	0,36	0,03	0,7	Vacuum	5000
	0,6	0,05	1,9	Vacuum	5000
	1	0,083	3	Vacuum	7000
	1,14	0,095	4,2	Vacuum	12000
	1,3	0,11	4,2	Vacuum	15000
	1,5	0,127	5,3	Vacuum	15000
	2	0,167	6	Vacuum	7000
13	2	0,167	7,5	Vacuum	10000
	1,3	0,1	7,5	Vacuum	1500
13,5	0,57	0,042	1,2	Vacuum	10000
	0,8	0,059	5,9	Vacuum	1500
	1,2	0,089	7,5	Vacuum	1500
	1,2	0,089	8,5	Vacuum	1000
	1,28	0,095	7	Vacuum	6000
	1,4	0,104	8,8	Vacuum	3000
	2	0,148	8	Vacuum	7000
	2	0,148	12	Vacuum	2000
	2,3	0,17	18,6	Vacuum	1000

T5 sockets are available in page 27.
 Silicon caps in page 51.
 Bulb frosting and lens colorization available upon request.
 Please contact us for detailed specifications.



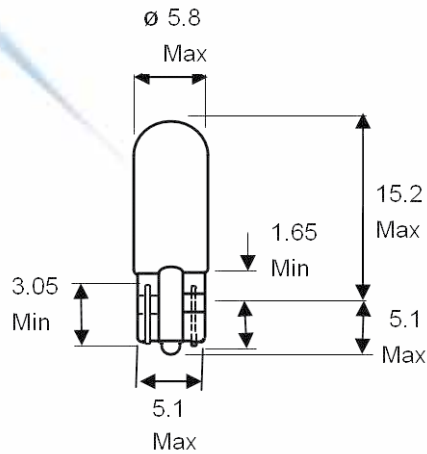
V	W	A	Light Output (Lm)	Filling	Life Hours
14	0,56	0,04	1,6	Vacuum	6000
	0,9	0,065	1,9	Vacuum	20000
	1,12	0,08	3,8	Vacuum	15000
	1,26	0,09	6,3	Vacuum	5000
	1,4	0,1	8	Vacuum	3000
	1,4	0,1	6	Vacuum	7500
	1,4	0,1	8	Vacuum	5000
	1,4	0,1	9	Vacuum	1500
	1,5	0,11	7,2	Vacuum	7000
	2	0,143	8	Vacuum	7000
	2	0,143	10	Vacuum	3000
18	0,72	0,04	1,9	Vacuum	10000
24	0,72	0,03	1,25	Vacuum	5000
	0,96	0,04	3	Vacuum	10000
28	1,12	0,04	3,8	Vacuum	10000
	1,2	0,043	6,3	Vacuum	1500
	1,5	0,054	7,5	Vacuum	1500
	1,8	0,065	8,2	Vacuum	5000
	2	0,072	12	Vacuum	1500

T5 sockets are available in page 27.

Silicon caps in page 51.

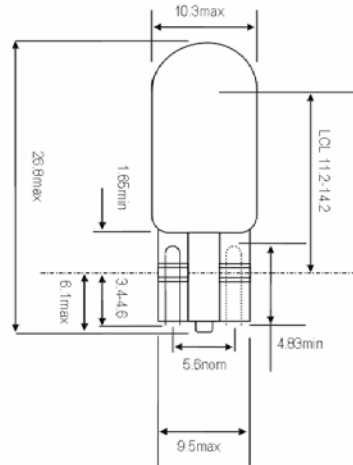
Bulb frosting and lens colorization available upon request.

Please contact us for detailed specifications.



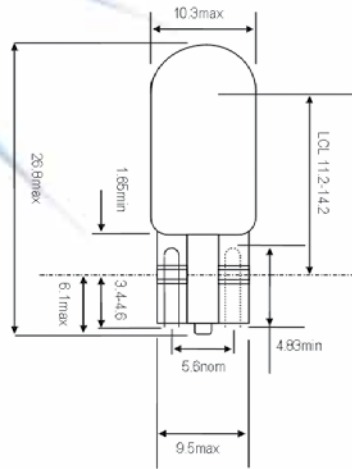
V	W	A	Light Output (Lm)	Filling	Life Hours
5	0,575	0,115	1,9	Vacuum	20000
6	1,2	0,2	8	Vacuum	1000
6,3	0,25	0,04	0,4	Vacuum	20000
	0,945	0,15	4,3	Vacuum	5000
	1,26	0,2	5	Vacuum	20000
13,5	2	0,148	12	Vacuum	2000
14	0,56	0,04	1,6	Vacuum	6000
	1,12	0,08	3,8	Vacuum	15000
	1,26	0,09	6,3	Vacuum	5000
	1,4	0,1	8,8	Vacuum	1500
	2	0,143	8	Vacuum	7000
	2,1	0,15	18,8	Vacuum	200
18	0,72	0,04	1,9	Vacuum	10000
28	1,12	0,04	3,8	Vacuum	10000
	1,4	0,05	6,3	Vacuum	3000
	1,82	0,065	8,2	Vacuum	5000

T5.6 sockets are available in page 32.
Bulb frosting and lens colorization available upon request.
Please contact us for detailed specifications.



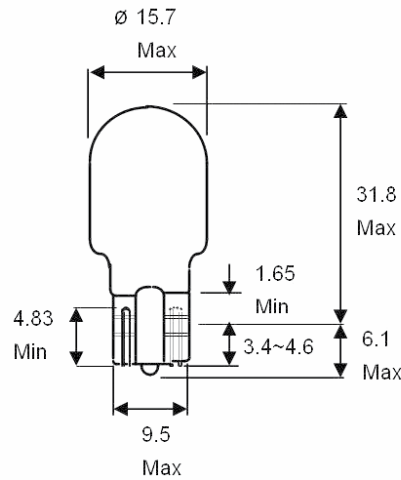
Voltage (V)	Wattage (W)	Current (A)	Light Output (Lm)	Filling	Lifetime (Hrs)	
6	2	0,33	9,5	Vacuum	7000	
6,3	0,945	0,15	4,3	Vacuum	5000	
	1,575	0,25	8,2	Vacuum	10000	
6,75	3	0,444	22	Vacuum	1500	
7	2	0,29	7,5	Vacuum	10000	
8	2,4	0,3	14,5	Vacuum	4000	
	3	0,375	16,3	Vacuum	3000	
10	3	0,3	16,3	Vacuum	3000	
12	1,2	0,1	5	Vacuum	8000	
	1,5	0,125	5,5	Vacuum	10000	
	2	0,167	6,3	Vacuum	20000	
	2	0,167	8,1	Vacuum	10000	
	3	0,25	15	Vacuum	5000	
	4	0,333	23,5	Vacuum	2000	
13	2,5	0,192	12,5	Vacuum	5000	
	2,6	0,2	22,6	Vacuum	1500	
	4,3	0,33	38	Vacuum	1000	
13,5	2,2	0,163	13	Vacuum	3000	
	2,2	0,163	11	Vacuum	5000	
	3	0,222	22	Vacuum	2000	
	5 (1)	0,37	30	Vacuum	1000	
	5	0,37	50	Vacuum	1000	
	5	0,37	50	Argon	1000	
	5	0,37	50	Krypton	2000	
	NEW	5	0,37	50	Xenon	3000
	NEW	5	0,37	62	Xenon	1000
	NEW	6	0,444	85	Xenon	1000
NEW	6	0,444	85	Xenon	800	

(1) Amber lacquered version



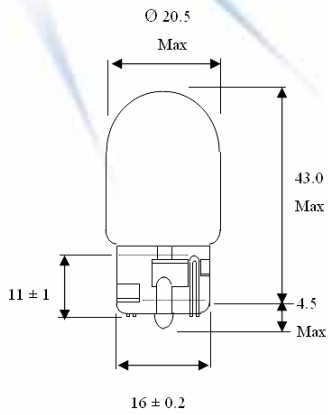
V	W	A	Light Output (Lm)	Filling	Life Hours
14	1,12	0,08	3,8	Vacuum	15000
	2,66	0,19	12,5	Vacuum	4000
	3	0,214	15	Vacuum	7000
	NEW 3	0,214	25	Xenon	10000
	NEW 3,4	0,24	25	Vacuum	1000
	NEW 3,4	0,24	25	Xenon	5000
	3,8	0,27	25	Vacuum	2500
	NEW 4,9	0,35	38	Vacuum	2000
14,4	7	0,5	50	Xenon	1000
18	1,7	0,120	12,5	Vacuum	2000
	2	0,11	10	Vacuum	5000
21	2,7	0,15	22,6	Vacuum	500
	5,1	0,245	22	Vacuum	5000
24	2,8	0,118	12	Vacuum	5000
	3	0,125	15	Vacuum	5000
	4	0,167	14	Vacuum	5000
28	1,12	0,04	3,8	Vacuum	7000
	1,68	0,06	7,8	Vacuum	5000
	2,24	0,08	7,8	Vacuum	7500
	2,66	0,095	13	Vacuum	5000
	2,8	0,1	20	Vacuum	1000
	4	0,143	22	Vacuum	1500
	7	0,25	50	Vacuum	1000

T10 sockets are available in page 36.
 Silicon caps in page 51.
 Bulb frosting and lens colorization available upon request.
 Please contact us for detailed specifications.



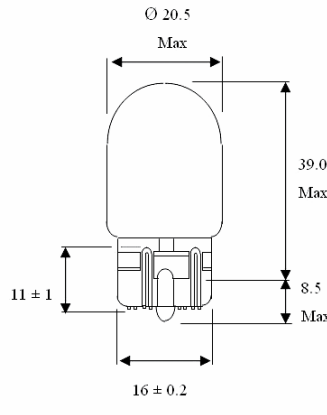
Voltage (V)	Wattage (W)	Current (A)	Light Output (Lm)	Filling	Life Hours
6	6	1	75	Argon	200
	6	1	81	Argon	50
	7,2	1,2	100	Argon	50
	9	1,5	150	Argon	100
12	9	0,75	138	Argon	50
12,8	7,2	0,56	81	Argon	750
	11,5	0,9	156	Argon	750
	12,5	0,98	188	Argon	200
	12,8	1	150	Argon	1500
	15,4	1,2	125	Argon	1800
	17,9	1,4	263	Argon	2000
13	9	0,69	75	Argon	1500
13,5	7,3	0,54	25	Vacuum	10000
	9,3	0,69	50	Argon	7500
	19,4	1,44	310	Argon	1500
	19,4	1,44	310	Krypton	2000
	19,4	1,44	310	Xenon	2500
24	7,2	0,3	50	Argon	1000
	7,2	0,3	50	Xenon	2000
	15,1	0,63	175	Argon	1000
	15,1	0,63	175	Xenon	2000
26	10	0,385	75	Argon	1000
	10	0,385	75	Krypton	2000
28	8,4	0,3	75	Argon	500

T15 sockets are available in page 40.
 Bulb frosting and lens colorization available upon request.
 Please contact us for detailed specifications.



W21W W3x16d

1 filament



W21/5W W3x16q

2 filaments



Voltage (V)	Wattage (W)	Current (A)	Light Output (Lm)	Filling	Life Hours	Comments
13,5	25	1,85	460	Argon	300	1 filament
	6 / 25	0,444 / 1,85	35 / 440	Argon	1000 / 500	2 filaments

Bulb frosting and lens colorization available upon request.
Please contact us for detailed specifications.



Fig.1

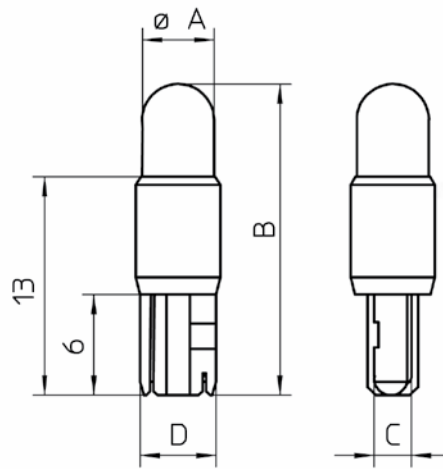


Fig.2

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure	A	B	C	D
KW T-1 1/4 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5	-	-	-	-	-
T-1 1/4	13.5	88	0,52	6,5	1	4,27	17,5	1,9	4,6
T-1 1/4-3	24	40	0,15	1,9	2	4,12	19,5	2,2	4,6
	24	35	0,1	1,3	2	4,12	18,5	1,9	4,6
	28	40	0,2	2,5	2	4,12	19,5	2,2	4,6
T-1 1/4-D10	28	30	0,12	1,5	2	4,25	17,5	2,2	4,6
KW T-1 1/2 Series	12 - 28	50 - 150	0,07 - 1,00	0,9 - 12,6	-	-	-	-	-
T-1 1/2-32	14	40	0,16	2,0	2	5	19	2,2	4,6
TL 1 1/2-7	14	80	0,3	3,8	2	5	21,1	2,2	4,6
T-1 1/2-32	28	53	0,6	7,5	2	5	19	2,2	4,6
TL 1 1/2-7	28	60	0,34	4,3	2	5	21,1	2,2	4,6

Socket type used are:

- For KW T-1^{1/4}: KW 2x4.6D

- For KW T-1^{1/2}: KW 2x4.6D

KW Series available in all mentioned range of Voltage, Voltage, Current and Light Output.

Please contact us for detailed specifications.



Fig.1

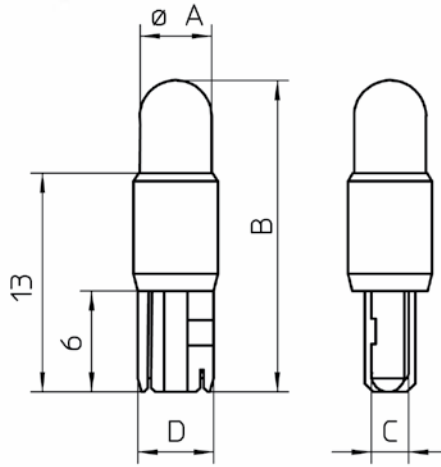


Fig.2

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure	A	B	C	D
KW T-2 1/4 Series	12 - 28	50 - 166	0,20 - 0,75	2,5 - 9,4	-	-	-	-	-
T-2 1/4	28	105	0,6	7,5	1	7,4	22,7	2,1	5
KW T-3 1/4 Series	12 - 28	160 - 250	1,2	15,1	-	-	-	-	-
T-3 1/4	28	160	1,2	15,1	2	10	22	-	-

Socket type used are:

- For KW T-2^{1/4}: KW 2.1x5.0D
- For KW T-3^{1/4}: KW 2.1x9.5D

KW Series available in all mentioned range of Voltage, Voltage, Current and Light Output. Please contact us for detailed specifications.

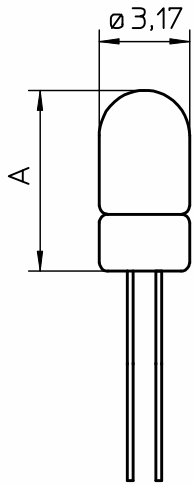


Fig.1

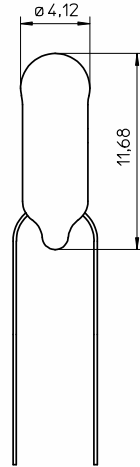


Fig.2

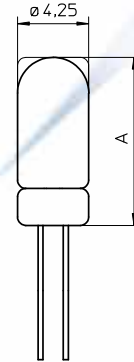


Fig.3



Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure	A
all T-1	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8		-
T-1 -32J	5	115	0,15	1,9	1	7
T-1 -1	12	60	0,15	1,9	1	6,35
T-1 -1BS	13.5	33	0,03	0,4	1	6,35
all T-1 1/4	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5		-
T-1 1/4-D2G	6.3	190	0,4	5,0	3	9
T-1 1/4-D2Y	13.5	33	0,03	0,4	3	9
T-1 1/4-G4Q	13.5	90	0,25	3,1	3	10
T-1 1/4-G4Y	13.5	88	0,52	6,5	3	10
T-1 1/4-3	14	65	0,16	2,0	2	-
	14	50	0,05	0,6	2	-
T-1 1/4-3BG	14	75	0,28	3,5	2	-
T-1 1/4-3BW	14	34	0,04	0,5	2	-
T-1 1/4-7	14	100	0,5	6,3	2	-
T-1 1/4-G46	14	40	0,08	1,0	3	10
T-1 1/4-G5K	14	34	0,04	0,5	3	10
T-1 1/4-M23	14	65	0,15	1,9	3	10
T-1 1/4-3	24	40	0,15	1,9	2	-
T-1 1/4-8	28	25	0,08	1,0	2	-
T-1 1/4-G5Q	28	30	0,1	1,3	3	10

- Bulb can be delivered with silicon caps upon request.
- Pins torsion available upon request.
- Specific packaging available upon request.
- Wire Terminal Lamps available in all mentioned range of Voltage, Voltage, Current and Light Output. Please contact us for detailed specifications.

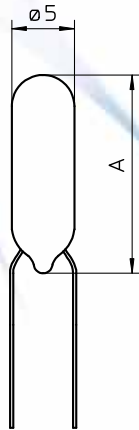


Fig.1

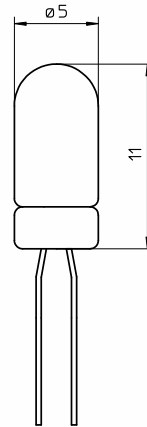


Fig.2

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure	A
all T-1 1/2	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6		-
T-1 1/2-16	6.3	190	0,4	5,0	1	14,2
T-1 1/2-9	12	65	0,22	2,8	1	15,87
T-1 1/2-12	13.5	90	0,64	8,0	1	17
T-1 1/2-N2	13.5	88	0,52	6,5	2	-
T-1 1/2-20	28	60	0,34	4,3	1	21,5

- Bulb can be delivered with silicon caps upon request.
 - Pins torsion available upon request.
 - Specific packaging available upon request.
 - Wire Terminal Lamps available in all mentioned range of Voltage, Voltage, Current and Light Output.
- Please contact us for detailed specifications.

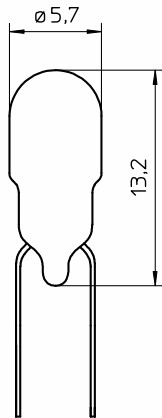


Fig.1

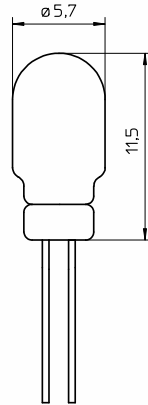


Fig.2

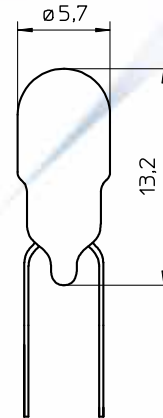


Fig.3

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure
all T-1 3/4	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5	
T-1 3/4-5	12	40	0,12	1,5	1
T-1 3/4-C6	13.5	125	0,62	7,8	2
T-1 3/4-5	14	80	0,2	2,5	1
	24	20	0,025	0,3	1
	28	40	0,15	1,9	1
all T-2	12 - 28	50 - 166	0,20 - 0,75	2,5 - 9,4	
T-2	12	166	0,5	6,3	3
	24	50	0,2	2,5	3
	24	100	0,75	9,4	3
	28	60	0,34	4,3	3

- Bulb can be delivered with silicon caps upon request.
 - Pins torsion available upon request.
 - Specific packaging available upon request.
 - Wire Terminal Lamps available in all mentioned range of Voltage, Voltage, Current and Light Output.
- Please contact us for detailed specifications.



Fig.1

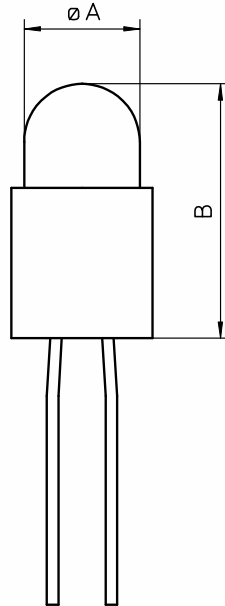


Fig.2



Fig.3



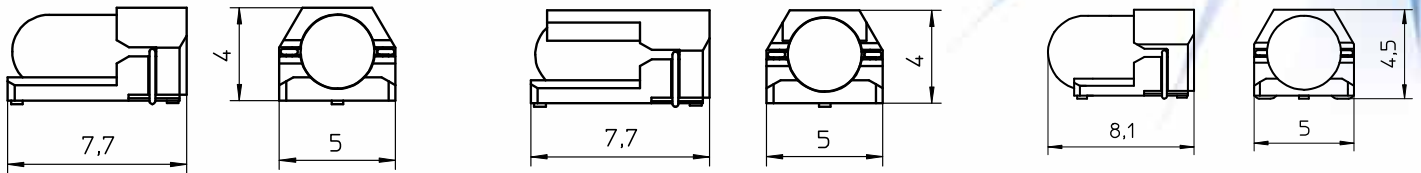
Fig.4

Series	Size	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	Figure	A	B
PC H49-62	all T-1	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8		-	-
	T-1 -36	5	90	0,15	1,9	1	4,85	8,5
	all T-1 1/4	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5		-	-
	T-1 1/4-G55	14	80	0,5	6,3	2	4,25	14
	T-1 1/4-X6	14	100	0,5	6,3	3	4,25	10
	all T-1 1/2	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6		-	-
	T-1 1/2-B7	14	100	0,5	6,3	4	5	11
	T-1 1/2-B	14	135	0,8	10,1	4	5	11

Silicon caps available on PC H62 Series

PCH Series available in all mentioned range of Voltage, Current and Light Output.

Please contact us for detailed specifications.



SMD 9



SMD 20/3



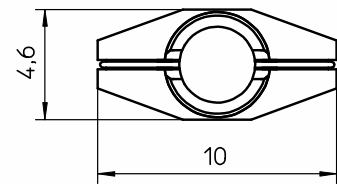
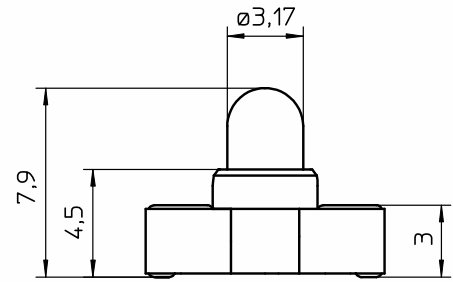
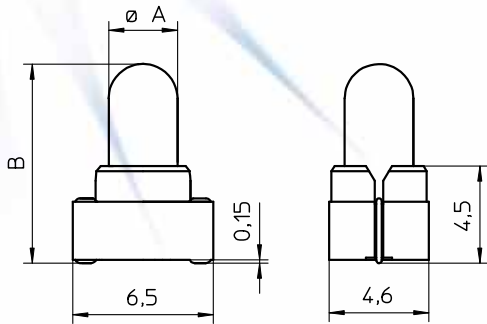
SMD 26

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
SMD 9 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8
SMD 9	5	115	0,15	1,9
	14	45	0,07	0,9
		65	0,16	2,0
SMD 20/3 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8
SMD 20/3	5	115	0,15	1,9
SMD 26 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8
SMD 26	14	40	0,12	1,5

Silicon caps available upon request

SMD Series available in all mentioned range of Voltage, Wattage and Current.

Please contact us for detailed specifications



SMD 43



SMD 44



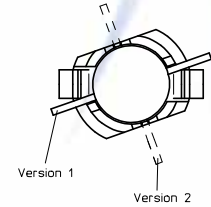
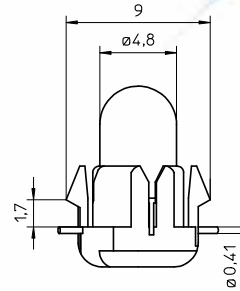
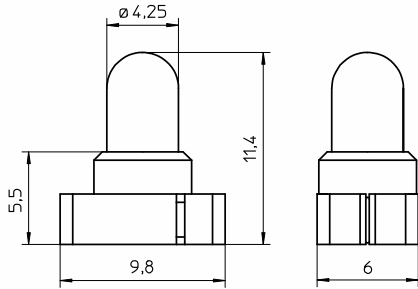
SMD 53

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A	B
SMD 43/44 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8	A	B
SMD 43/44	5	115	0,15	1,9	3,17	9,2
	5.8	125	0,28	3,5	3,17	7,15
	14	40	0,09	1,1	3,17	7,9
	14	40	0,15	1,9	3,8	8,2
SMD 53 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8	-	-
SMD 53	14	40	0,09	1,1	-	-

Silicon caps available upon request

SMD Series available in all mentioned range of Voltage, Wattage and Current.

Please contact us for detailed specifications



PC H57



PCM 25

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
PC M25 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5
PC M25	14	100	0,5	6,3
PC H57 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5
PC H57	14	100	0,5	6,3

Various color sockets available upon request.

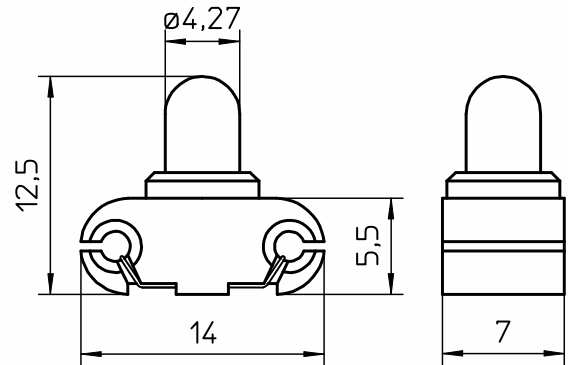
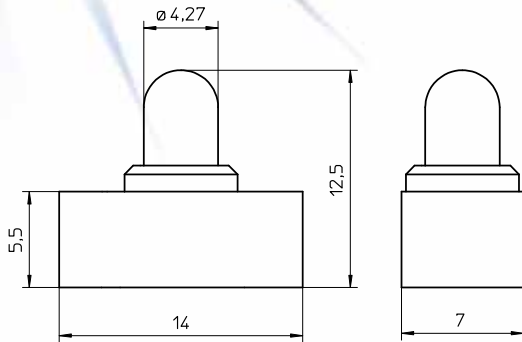
Silicon caps available upon request on PC H57, standard on PC M25.

PCM25 Series:

- 2 versions available: contacts can be positioned on different sides of the socket body.
- PC board thickness: 1,5 mm.

PC H and PC M Series available in all mentioned range of Voltage, Wattage and Current.

Please contact us for detailed specifications.



PC H29

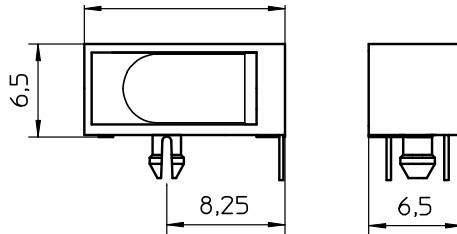


PC H35

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
PC H29 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5
PC H29	14	65	0,16	2,0
PC H35 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5
PC H35	14	100	0,5	6,3

Various color sockets available upon request.
Silicon caps available upon request .

PCH Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications



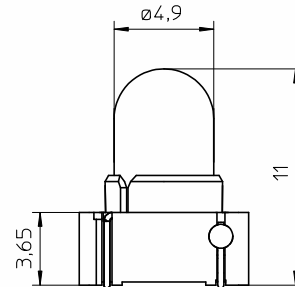
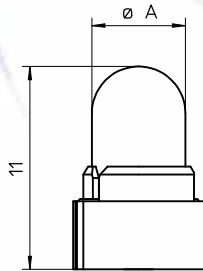
SMD 27/1

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
SMD 27/1 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5
SMD 27/1	6.3	100	0,2	2,5

Silicon caps available upon request

SMD 27/1 Series available in all mentioned range of Voltage, Wattage and Current.

Please contact us for detailed specifications.



SMD 50



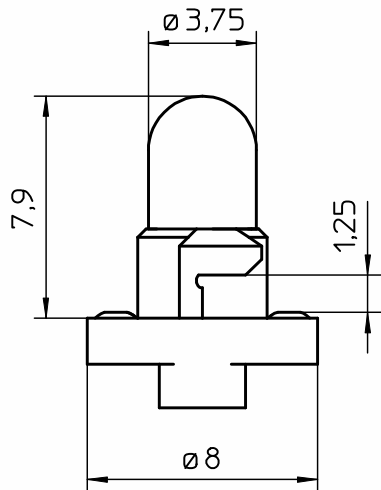
SMD 70

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A
SMD 50 Series	12 - 28	20 - 100	0,02 - 0,52	0,3 - 6,5	
SMD 50	14	48	0,1	1,3	4,8
	14	100	0,5	6,3	5
	14	135	0,8	10,1	5
SMD 70 Series	12 - 28	50 - 150	0,07 - 1,00	0,9 - 12,6	
SMD 70	14	100		6,3	-

Silicon caps available upon request

SMD 50 and SMD 70 Series available in all mentioned range of Voltage, Wattage and Current.

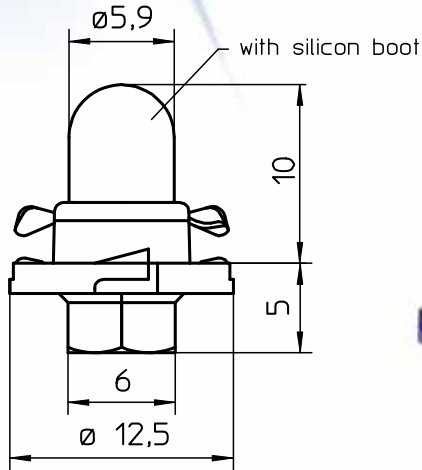
Please contact us for detailed specifications.



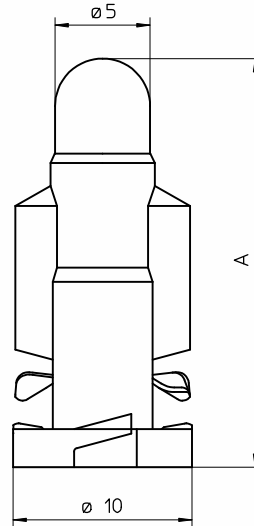
Size	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
PC BA8 Series	5 - 14	30 - 125	0,01 - 0,3	0,1 - 3,8
	14	65	0,15	1,9

Various color sockets available upon request.

PC BA8 Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



EBS PX

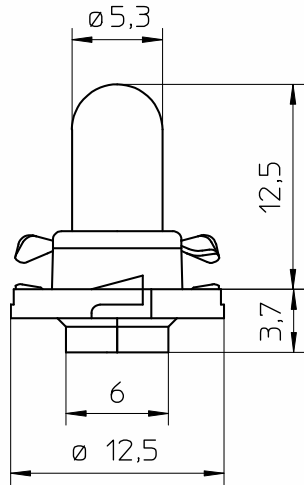


EBS C/L

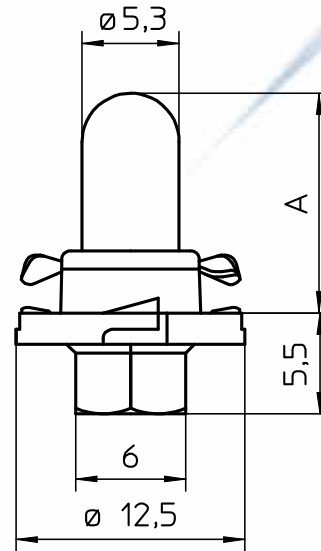
Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A
EBS C/L and PX Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6	-
EBS PX	13,5	66	0,35	4,4	-
EBS C/L	13,5	48	0,06	0,8	21,5
		78	0,28	3,5	23,0
		78	0,28	3,5	30,6
		88	0,52	6,5	23,0
		150	0,875	11,0	23,0
	14	40	0,05	0,6	30,6
		125	0,7	8,8	30,6

- Silicon caps available upon request
- Circuit thickness: 1,5mm or 2mm

EBS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



EBS PK

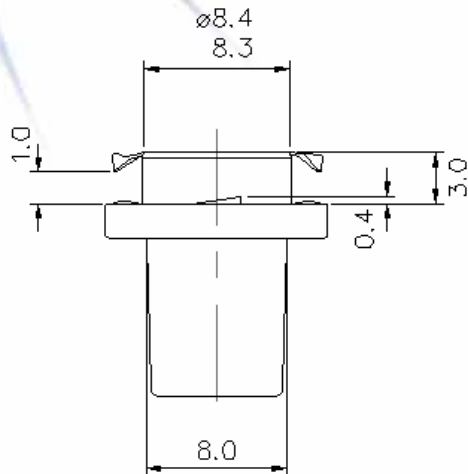


EBS P

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A
EBS P and PK Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6	-
EBS PK	13,5	50	0,2	2,5	-
EBS P	13,5	50	0,2	2,5	12,5
		66	0,35	4,4	13,3
		90	0,6	7,5	12,0
		98	0,5	6,3	10,5
		110	0,52	6,5	12,0
		133	0,55	6,9	12,0
		150	1	12,6	12,0
		150	0,87	10,9	13,5
	14	45	0,07	0,9	12,5
		100	0,5	6,3	12,0
	28	40	0,15	1,9	12,0
		50	0,5	6,3	12,0
		70	0,875	11,0	13,5
70		0,875	11,0	13,3	

- Silicon caps available upon request on EBS P Series and standard on EBS PX Series
- Circuit thickness: 1,5mm or 2mm

EBS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



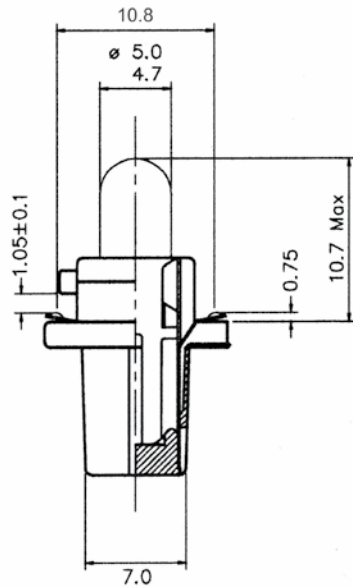
Series N°	Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)	Lifetime (Hrs)	Filling
6561	12	0,36	30	0,7	2500	Vacuum
		0,5	42	1,2	4200	Vacuum
		0,8	59	5	700	Vacuum
		1	83	3,3	1500	Vacuum
		1,2	95	7	6200	Vacuum
		2	148	12	1500	Vacuum
	28	2	72	11,9	1500	Vacuum

Various color sockets available upon request.
 Socket can be sold as discrete component.

Circuit thickness:

6561 Series = 1,5mm

Please contact us for detailed specifications.



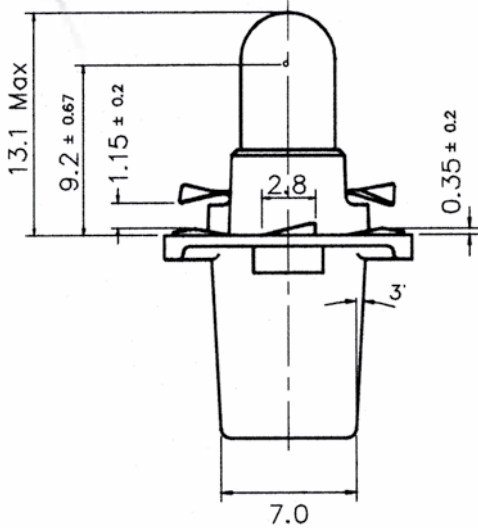
Series N°	Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
6797	12	0,36	30	0,7
		0,5	42	1,2
		0,8	59	5
		1	83	3,3
		1,2	95	7
		2	148	12
	28	2	72	11,9

Various color sockets available upon request.
Socket can be sold as discrete component.

Circuit thickness:

6797 Series = 1,5mm

Please contact us for detailed specifications.



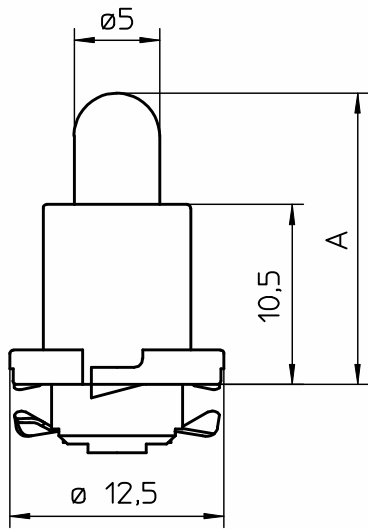
Series N°	Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
7111	6	1	167	3,8
	12	0,6	50	1,9
		1	83	3
		1,5	127	5,3
	13,5	0,8	59	5,9
		1,28	95	7
		2	148	12
		2,3	170	18,6
	14	3	222	23,5
	28	1,2	43	6,3
2		72	12	

Various color sockets available upon request.
Socket can be sold as discrete component.

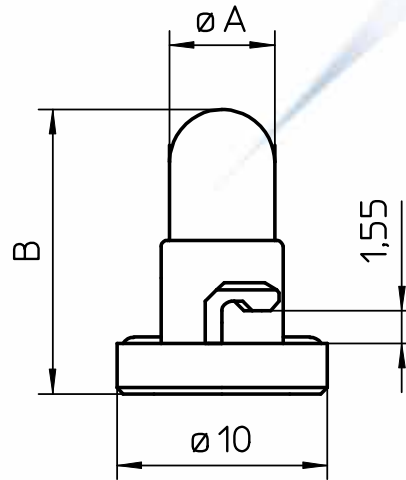
Circuit thickness:

7111 Series = 1,5mm

Please contact us for detailed specifications.



EBS R



PC BA7

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A	B
EBS R Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6		
EBS R	12	166	1	12,6	17	5
		90	0,64	8	17	5
	13.5	135	0,64	8	17	5
		80	0,3	3,8	17	5
	28	40	0,3	3,8	17	5
		53	0,6	7,5	17	5
		53	0,6	7,5	18,5	5,6
53	0,6	7,5	17	5		
PC BA7 Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6		
PC BA7	14	100	0,5	6,3	5,6	17,6
		125	0,7	8,8	5	13,5

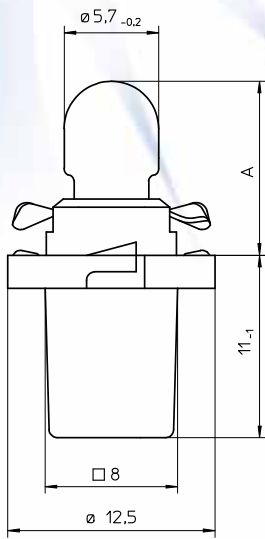
Various color sockets available upon request.
Silicon caps available upon request.

Circuit thickness:

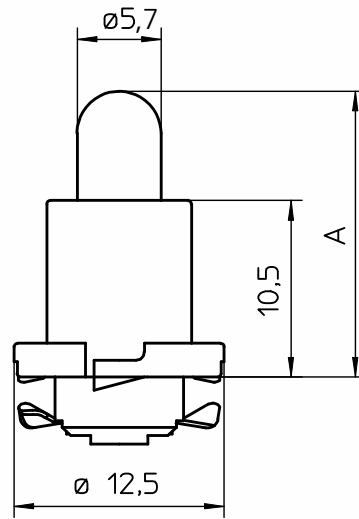
PC BA7 Series: 1,5mm

EBS R Series: 1,5mm or 2mm

PC BA Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



EBS N

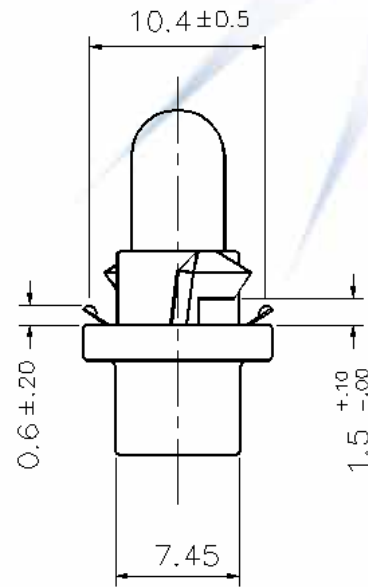
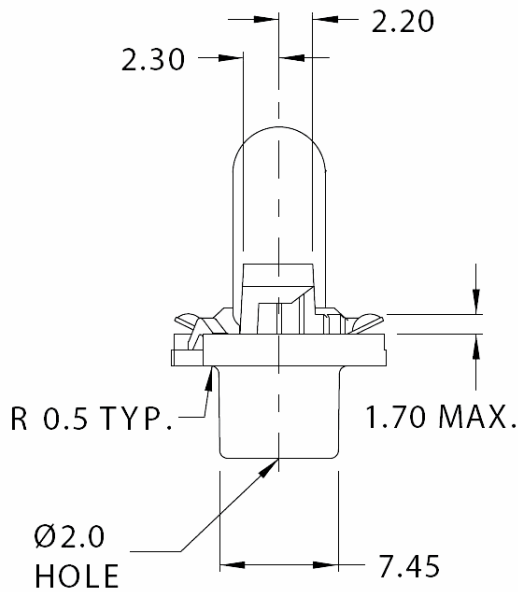


EBS R

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	B
EBS N Series	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5	-
EBS N	12	100	0,38	4,8	10,5
	13.5	95	0,56	7,0	10,5
		110	0,52	6,5	10,4
	24	60	0,32	4,0	10,5
	28	65	0,6	7,5	10,5
		110	1,1	13,8	10,5
EBS R Series	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5	-
EBS R	28	60	0,45	5,7	17

- Silicon caps available upon request
- Circuit thickness: 1,5mm or 2mm

EBS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



5565 Series



5575 Series

Series N°	Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)	Lifetime (Hrs)	Filling
5565	14	1,3	90	6,3	3000	Vacuum
	14	1,4	100	8,8	1000	Vacuum
5575	14	2	140	8	5000	Vacuum

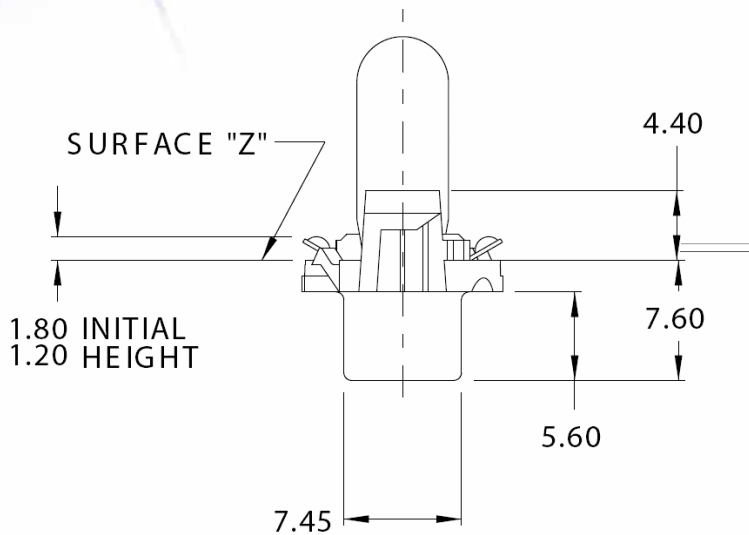
Sockets with single-sided contact .
 Various color sockets available upon request.
 Various lamps available in page 7 can be mounted upon request.
 Socket can be sold as discrete component.

Circuit thickness:

5565 series: 2mm

5575 series: 1,5mm

Please contact us for detailed specifications.

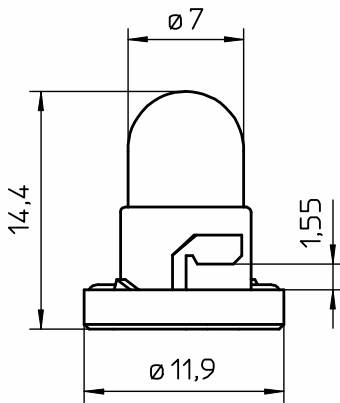


Series N°	Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)	Lifetime (Hrs)	Filling
5605	14	1,3	90	6,3	3000	Vacuum
	14	1,4	100	8,8	1000	Vacuum

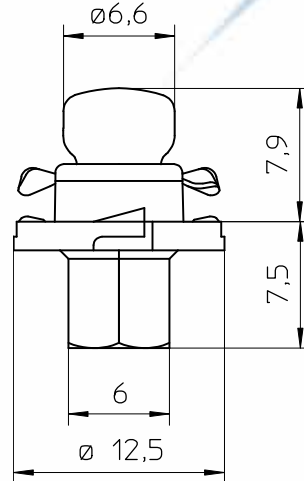
Socket with single-sided contact.
 Various color sockets available upon request.
 Various lamps available in page 7 can be mounted upon request.
 Socket can be sold as discrete component.

Circuit thickness:

5605 series: 2mm
 Please contact us for detailed specifications.



PC BA13



EBS PM

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
PC BA13 Series	12 - 28	50 - 166	0,20 - 0,75	2,5 - 9,4
PC BA13	13.5	280	3	37,7
ESB PM Series	12.6 - 14	65 - 115	0,16 - 0,56	2,0 - 7,0
EBS PM	12.6	115	0,56	7,0
	14	65	0,16	2,0

- Various color sockets available upon request.
- Silicon caps available upon request on PC BA13.
- EBS PM features a frosted lens

Circuit thickness:

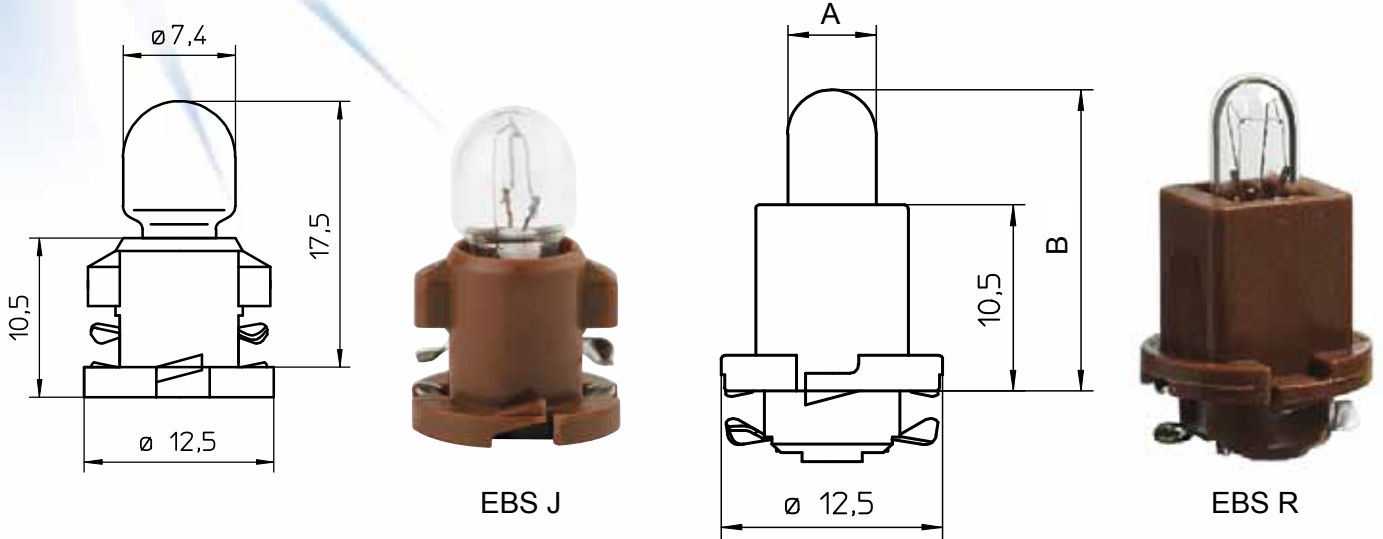
PC BA13 Series = 1,5mm

EBS PM Series = 1,5mm or 2mm

PC BA Series available in all mentioned range of Voltage, Wattage and Current.

EBS PM only available in the mentioned range.

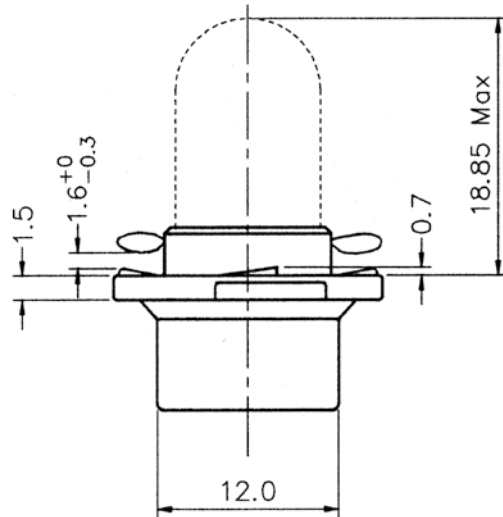
Please contact us for detailed specifications.



Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)	A	B
EBS J Series	8 - 28	65 - 350	0,16 - 1,3	2 - 16,3	-	-
EBS J	12,5	265	1,3	16,3	-	-
EBS R Series	8 - 28	65 - 350	0,16 - 1,3	2 - 16,3	-	-
EBS R	8	350	1,3	16,3	7,4	18,8
	24	125	1,4	17,6	10,2	19,8
		125	1,4	17,6	7,4	18,8

Silicon caps available upon request only on EBS R Series
Circuit thickness: 1,5mm or 2mm

EBS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



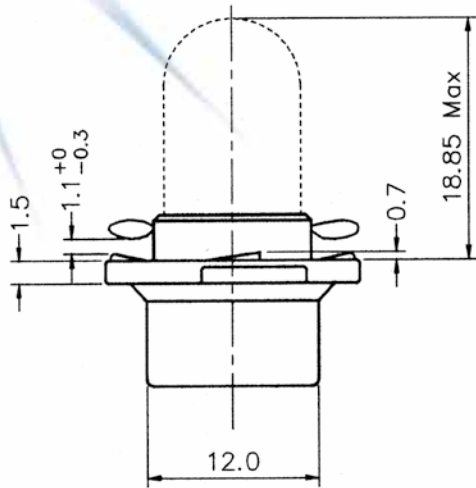
Series number	Voltage (V)	Wattage (W)	Light Output (Lm)	AC/DC Life (Hrs)	Filling
7080	13,5	2	13	3000	Vacuum
		3	22	1000	Vacuum
		5	50	1000	Argon
		5	50	2000	Krypton
		6	85	1000	Xenon
	28	2	13	1000	Vacuum
		3	22	1000	Vacuum
	28	4,5	15	5000	Vacuum

Socket with double-sided contacts.
 Various color sockets available upon request.
 Various lamps available in page 8 can be mounted upon request.
 Socket can be sold as discrete component.

Circuit thickness:

7080 Series= 2mm

Please contact us for detailed specifications.



Series number	Voltage (V)	Wattage (W)	Light Output (Lm)	Lifetime (Hrs)	Filling
7121	6,3	1,6	8,2	10000	Vacuum
	13	2,6	22,6	1500	Vacuum
	13,5	2	13	3000	Vacuum
		3	22	1500	Vacuum
		5	50	1000	Argon
		5	50	1000	Krypton
		6	84	800	Vacuum
		6	84	800	Xenon
	24	2,2	11	3000	Vacuum
		2	13	5000	Vacuum
		3	22	1000	Vacuum

Socket with double-sided contacts.
 Various color sockets available upon request.
 Various lamps available in page 8 can be mounted upon request.

Circuit thickness:
 7121 series = 1,5 mm
 Please contact us for detailed specifications.

Socketed Lamps

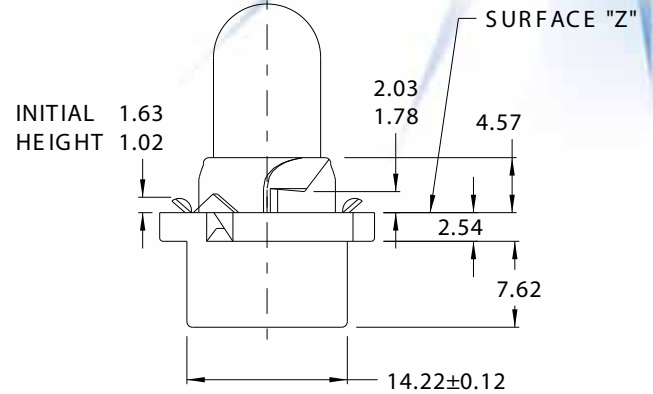
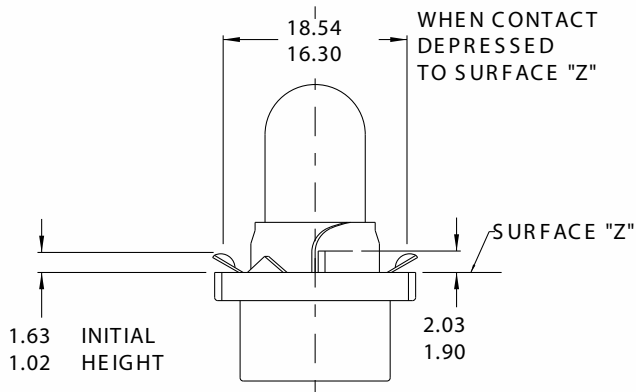
Twistlock T10 (T-3^{1/4})



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5525 Series



5602 Series

Series number	Voltage (V)	Wattage (W)	Light Output (Lm)	AC/DC Life (Hrs)	Filling
5525	14	2,7	24	1500	Vacuum
	14	3,4	30	500	Vacuum
	14	3,8	34	1500	Vacuum
5602	14	3,8	34	1500	Vacuum

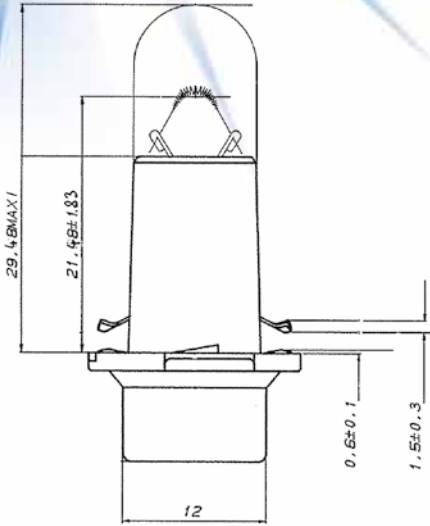
Socket with double-sided contacts. 5602 Series available with short or long contacts.
 Various color sockets available upon request.
 Various lamps available in page 8 can be mounted upon request.
 Socket can be sold as discrete component.

Circuit thickness:

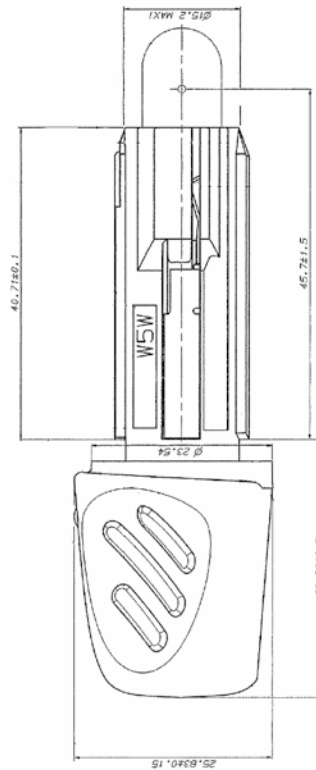
5525 series = 2mm

5602 series = 2mm

Please contact us for detailed specifications.



7416 Series



7554 Series

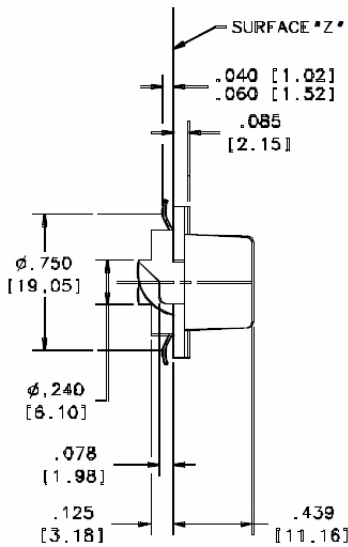
Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

7554 Series:

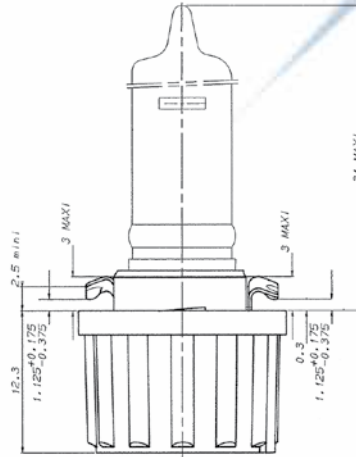
- Waterlight joint.
- Socket can be sold as discrete component.

7416 Series:

Circuit thickness = 1,5 or 2mm
Please contact us for detailed specifications.



5377 Series



7578 Series

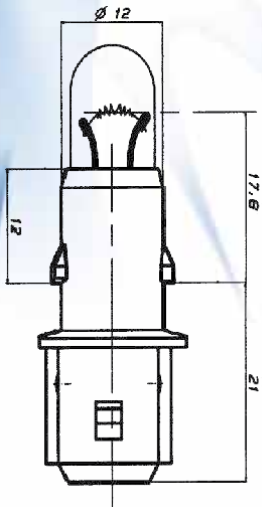
Mounting Type	Bulb size	Series N°
Twistlock	T10 ot T15	5377
Twistlock	BAX9s	7578

5377 Series:

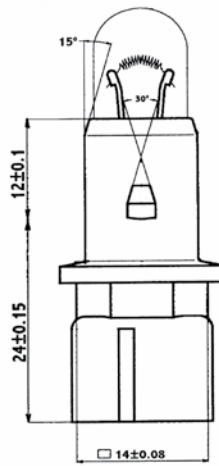
Double contacts
 Various color sockets available upon request.
 Suitable for Wedge Base lamps from 12V to 24V.
 Circuit thickness: 1,5mm

7578 Series:

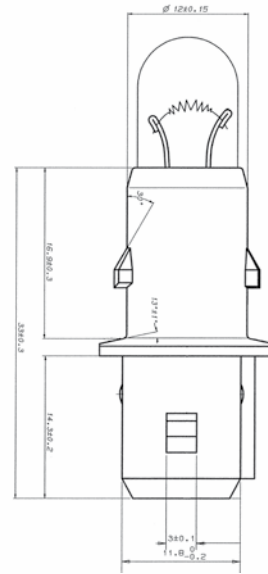
Product delivered without lamp.
 Lamp upon request, please contact us.
 Suitable for halogen lamps.
 Body material: PPS.
 Circuit thickness: 1,5mm
 Please contact us for detailed specifications.



7496 Series



7148 Series



7545 Series

Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

7496 Series:

Socketed lamp with a water light connection and a weather proof joint.

7148 Series:

Socketed lamp with a weather proof joint. Connection is not water light.

7545 Series:

Socketed lamps with a water light connection and a weather proof joint.

Circuit thickness:

7496 series = 2,8mm

7148 Series = 2,8mm

7545 Series = 2,8mm

T10 12V 5W amber bulb available upon request.

Please contact us for detailed specifications.

Socketed Lamps

Connector pins T10 (T-3^{1/4})

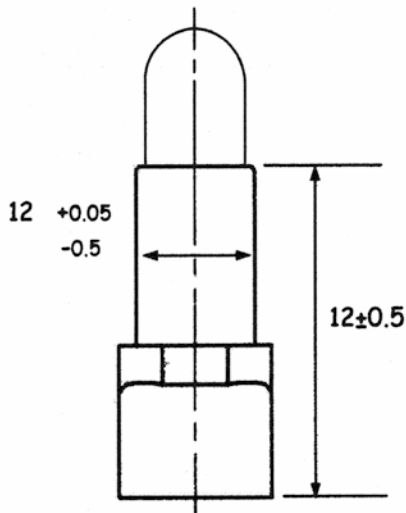


CML

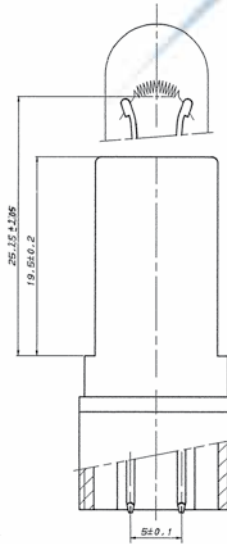
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7147 Series



7547 Series

Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

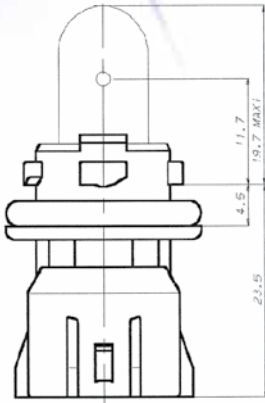
Socketed lamps with a non water light connection.
T10 12V 5W amber bulb available upon request.
Socket color: natural.

Circuit thickness:

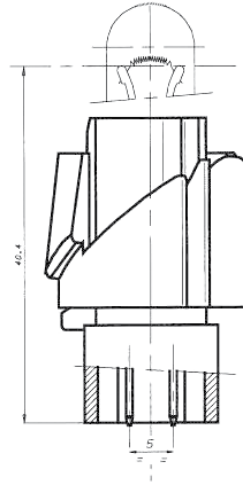
7147 Series = 2,8mm

7547 Series = 2,3mm

Please contact us for detailed specifications.



7575 Series



7643 Series

Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

7575 Series:

Socketed lamp with a water light connection and a weather proof joint.
T10 12V 5W amber bulb available upon request.

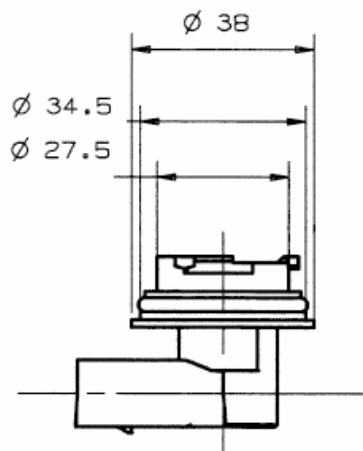
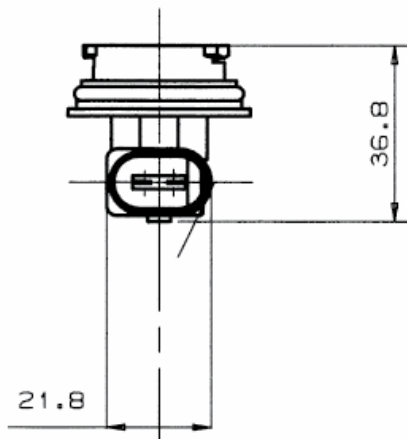
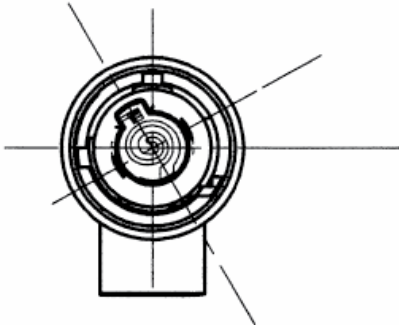
7643 Series:

Non waterlight connection.

Circuit thickness:

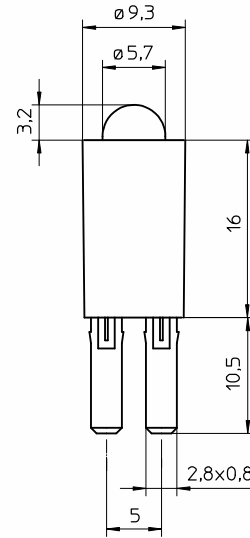
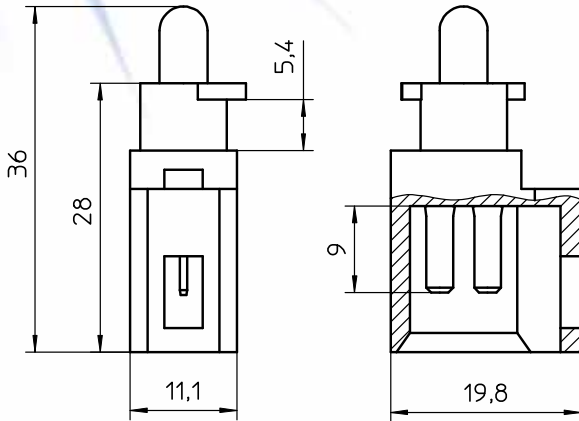
7575 Series = 2,3mm

Please contact us for detailed specifications.



Buble size	Series N°
BA15s	7909/7910
BAY15s	7908

- Delivered without lamp.
 - Lamp upon request, please contact us.
 - P21 holder can be marked with customer
 - Connection type: insert-moulded 2,8* 0,8* 6
 - Contacts can be adapted to customer's specifications.
- Please contact us for detailed specifications.



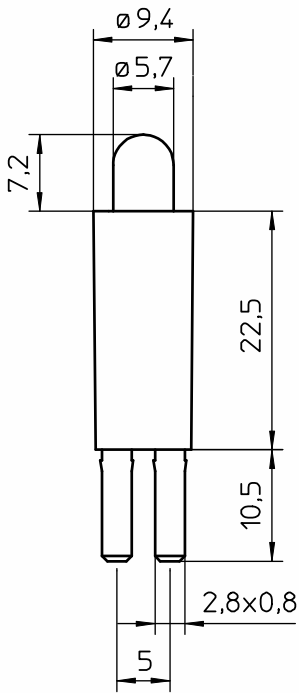
FLS 4



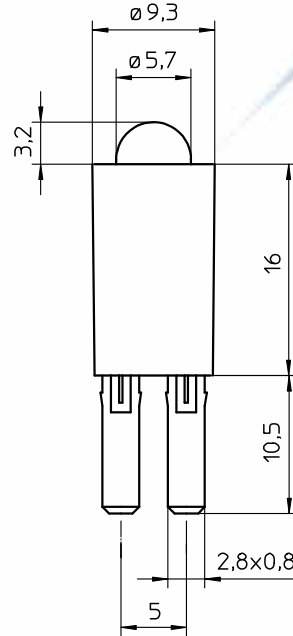
FLS 9

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
FLS 4 Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6
T-1 1/2-30	14	80	0,3	3,8
FLS 9 Series	12 - 28	50 -150	0,07 - 1,00	0,9 - 12,6
T-1 1/2-H1	14	100	0,5	6,3

FLS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



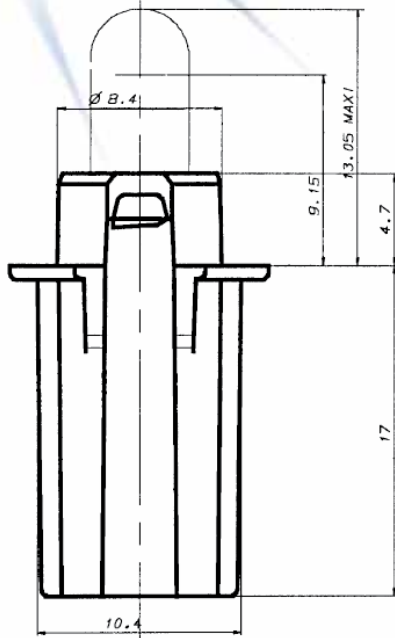
FLS 12



FLS 2,8W

Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
FLS 12 Series	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5
T-1 3/4-3B	14	100	0,5	6,3
FLS 2,8 Series	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5
T-1 3/4-5	14	100	0,4	5,0

FLS Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



7566 Series

Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

Socketed lamp to be crimped, for push-in fit or welding.
Please contact us for detailed specifications.

Socketed Lamps

To be crimped T10 (T-3^{1/4})

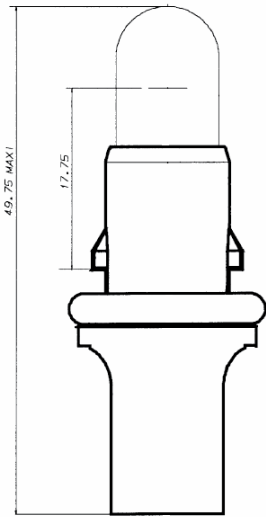


CML

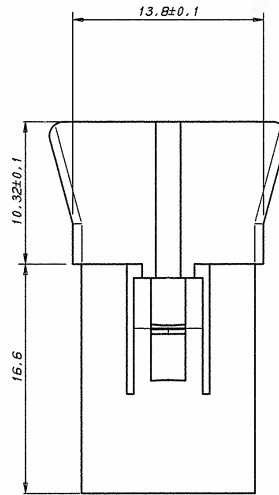
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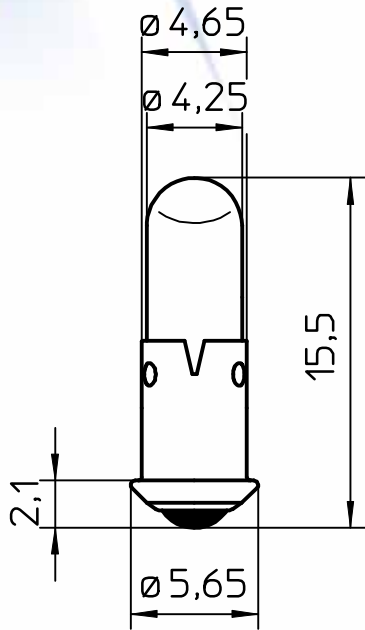
7530 Series



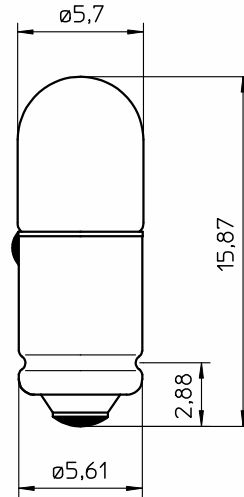
7668 Series

Voltage (V)	Wattage (W)	Current (mA)	Light Output (Lm)
12	1,2	100	5
	2	163	13,5
	2,2	163	10
	5	420	50
	6	444	82
24	1,2	43	7,5
	2	95	13
	3	143	22
	5	250	50

Socketed lamp to be crimped, for push-in fit or welding.
Please contact us for detailed specifications.



SM 5s/8

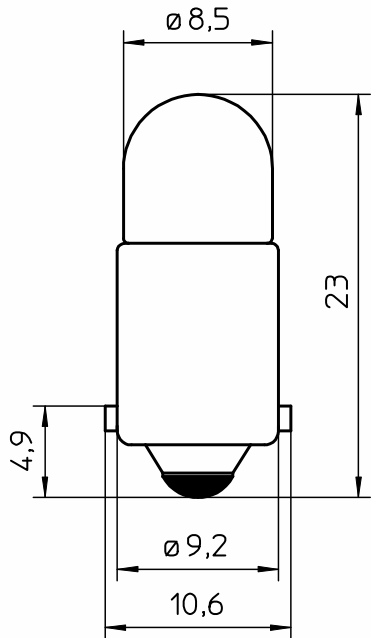


MG 5,7s

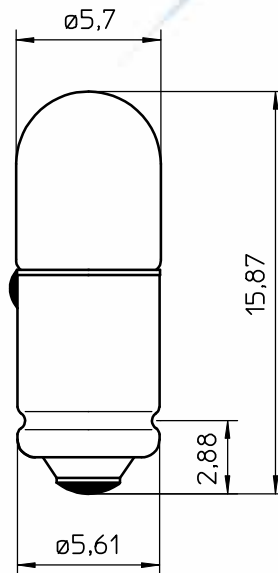
Series	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
SM 5s/8 TL 1 1/4-4B	1.5	60	0,33	4,1
MG Series	12 - 28	40 - 110	0,10 - 0,60	1,3 - 7,5
T-1 3/4-5A	28	40	0,15	1,9
		40	0,2	2,5
		40	0,3	3,8

MG = Midget Groove base

Based lamps available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.



BA 9s T-2^{3/4}



BA 9s T-3^{1/4}

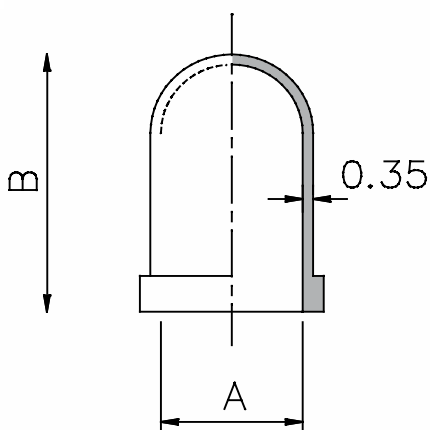


Size	Voltage (V)	Current (mA)	Light Output (Mscp)	Light Output (lm)
BA9s Series	6 -130	18 - 333	0,08 - 0,95	1 - 11,9
T-2 3/4	24	50	0,2	2,5
		80	0,5	6,3
	28	60	0,34	4,3
T-3 1/4	130	22	0,4	5,0

BA = Bayonet base

BA 9s Series available in all mentioned range of Voltage, Wattage and Current.
Please contact us for detailed specifications.

Wedge base lamps can be covered by a silicone rubber color cap to improve their brightness or to reach your color's requirement. They are adaptable to the standard sizes of our wedge base lamps.



CAP	Nominal dimensions (mm)	
	Dim.A	Dim.B
A-3006-	3.0	6.7
A-4210-	4.1	10.5
A-4806-	4.8	6.5
A-4808-	4.7	8.5
A-4910-	4.8	10.3
A-1013-	10.0	13.0

Drawing not to scale all dimensions in mm.

SIZE (mm)	PART No.	STANDARD COLOUR SHADES (HUE)					STANDARD COLOUR DEPTHS							
		RED	GREEN	BLUE	ORANGE	YELLOW	Low	?	(SATURATION)	?	High			
T3	A-3006-	R	G	B	O	Y	10	20	30	40	50	60	70	80
T4	A-4210-	R	G	B	O	Y	10	20	30	40	50	60	70	80
T5S	A-4806-	R	G	B	O	Y	10	20	30	40	50	60	70	80
T5	A-4808-	R	G	B	O	Y	10	20	30	40	50	60	70	80
T5L	A-4910-	R	G	B	O	Y	10	20	30	40	50	60	70	80
T10	A-10013-	R	G	B	O	Y	10	20	30	40	50	60	70	80

Material	: Silicone Rubber.
Operating Temperature (°C)	: Heat Resistance: 180°C continuous. (250°C short periods) : Cold Resistance: -40°C to -55°C.
Hardness	: 51 (JIS A)
Tensile Strength	: 74 kgf/cm ² .
Elongation	: 450 %
Tear Resistance	: 15 kg/cm.

Notes:

- 1) Colours: Additional colours are available. (Examples: BG = Blue-Green, W = White).
 - 2) Hue: Alternative shades of colour are available. (Examples: G2, B2, B3, R2, Y2 etc.).
- Please contact us for detailed specifications.



For any inquiries, please contact our sales representatives at the following coordinates:

