

# Vehicle and Miniature lamps

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## Introduction

Thorn Lighting are leading suppliers of automobile and miniature lamps to major U.K. and European users.

Important innovations have been wedge-base lamps, developed and patented by Thorn Lighting, now in use all over the world, and the first twin-filament tungsten-halogen auto headlamp (26-0457), now just one example of an extensive range.

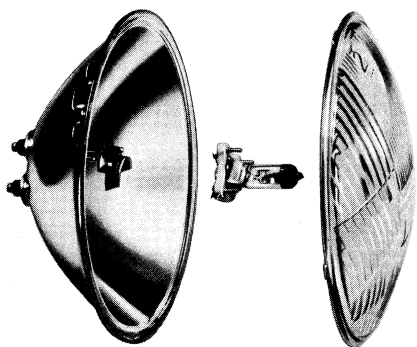
Two recent Thorn developments were cited in the Queen's Award to Industry 1972 for Technological Innovation: the molybdenum "frame mount" used in the H4 (26-0472 12V 60/55W) and "Bromophosphonitrile" the patented halogen compound used in many Thorn tungsten-halogen auto lamps.

The lamps listed are representative of the main range of lamps made by Thorn Lighting.

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## Sealed beam headlamps



Exploded view tungsten-halogen unit 60-7023



60-7023

### HEADLAMPS – with 7in diameter lens

Lamp Reference no.	Volts	Watts	Drive	Dip	Standard pack
60-7002	12	60/45	RH	Left	10
60-7010	12	75/50	RH	Left	10
60-7011*	12	60/45	LH	Right ‡	10
60-7012	12	75	RH	—	10
60-7014*	12	60/45	RH	Left	10
60-7020	12	75/50	RH	Left	Super Intensity 10
60-7021*	12	75/50	RH	Left	Super Intensity 10
60-7025	12	60/45	RH	Left	Pilot Reflector 10

### HEADLAMPS – with 5½in diameter lens

60-5702	12	50/37.5	RH	Left	10
60-5712	12	50	RH	—	10
60-5718*	12	50/37.5	RH	Left	10
60-5724	12	75	RH	—	Super Intensity 10

### HEADLAMPS – RECTANGULAR

60-7505*	12	75/60	RH	Left	10
60-7503*	12	60/50	LH	Right ‡	10
60-7511*	12	75/60	RH	Left	Uplight shield 10

### TUNGSTEN-HALOGEN AUXILIARY LAMPS – with 5½in diameter lens

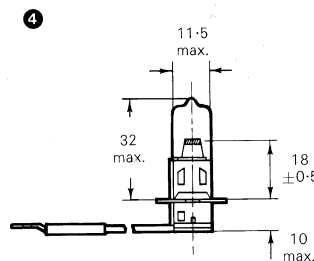
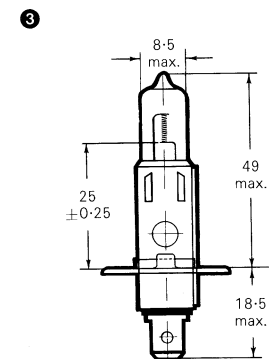
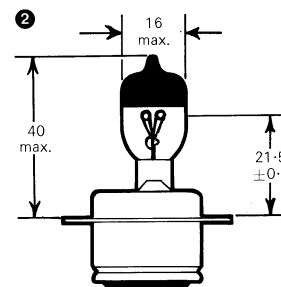
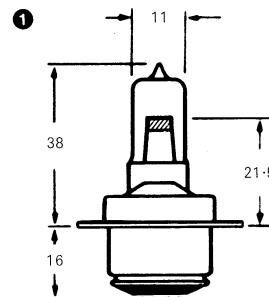
60-5725	12	55	Fog		10
60-5726	12	55	Long Range		10
60-5728	24	70	Fog		10
60-5729	24	70	Long Range		10

### TUNGSTEN-HALOGEN HEADLAMPS

7in circular	60-7023*	12	60/55	RH	Left ‡	Halogen	2
5½in circular	60-5733	12	75	RH	—	Halogen	2
5½in circular	60-5734*	12	55	RH	Left	Halogen	2

\*With pilot aperture  
‡Asymmetric beam

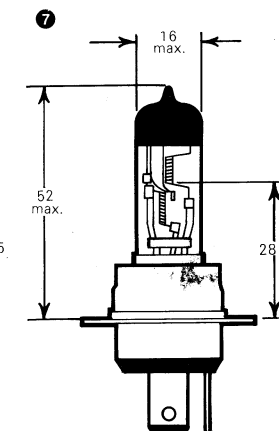
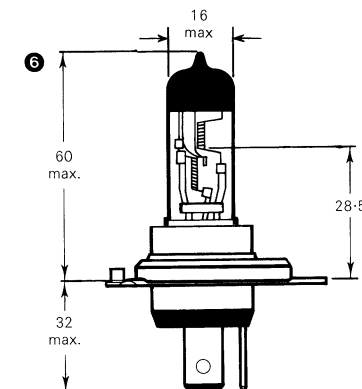
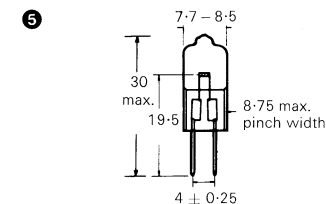
## Tungsten-halogen lamps



Lamp Reference	European Ref (or type)	Volts	Watts	Cap	Illustration	Standard pack
85-7018	(M35)	12	20	G4 Bi-pin	5	1
26-0454		6	55	P36s	1	10
26-0465	H1	6	55	P14-5s	3	10
26-0455	H3	6	55	PK22s	4	10
26-0450		12	55	P36s	1	10
26-0448	H1	12	55	P14-5s	3	10
26-0453	H3	12	55	PK22s	4	10
26-0458		24	70	P36d	1	10
26-0459		24	70	P36s	1	10
26-0466	H1	24	70	P14-5s	3	10
26-0460	H3	24	70	PK22s	4	10
26-0457	RH Drive	12	55/43	P36d	2	10
26-0469	LH Drive	12	55/43	P36d	2	10
26-0472	H4	12	60/55	P43t-38	6	10
26-0463		12	60/55	P36t	7	10

\*International reference

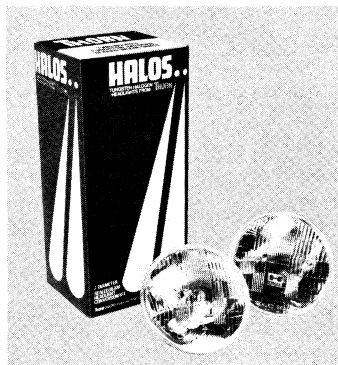
All dimensions in mm



# Tungsten Halogen Headlamp Conversion Kits

## 7" CONVERSION KIT 12V 60/55W R.H. DRIVE

**7023 Kit** comprises two 12V 60/55W sealed beam headlamps R.H. Drive, main and dip beam, ref. 60-7023. Tungsten Halogen conversion for all 7" dia sealed beam units except 60-7012 and 60-7025. Headlamp contains a T.H. capsule similar to H4 giving far reaching main beam plus asymmetric dip beam with sharp cut-off and high intensities on near side.

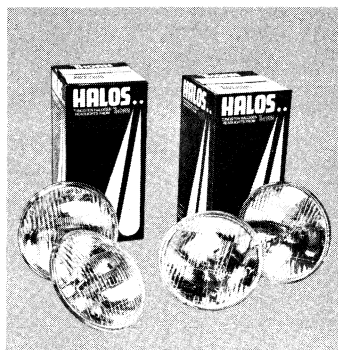


## 5 1/2" CONVERSION KITS 12V 75W & 12V 55W R.H. DRIVE

**5733 Kit** comprises two 12V 75W sealed beam headlamps R.H. Drive, main beam (inner), ref. 60-5733.

**5734 Kit** comprises two 12V 55W sealed beam headlamps R.H. Drive, dip beam (outer) ref. 60-5734.

Tungsten Halogen conversion for all 5 1/2" sealed beam units. Part conversion with 5733 kit improves main beams markedly but for greater benefit use full system 5733 & 5734 and obtain nearly double intensities on dip beam of British pattern. Simple replacement results in 2 main 2 dip beams for full 4-lamp main beam fit suitable relay.



## 463 CONVERSION KIT 12V 60/55W

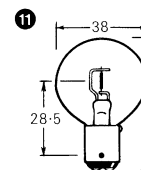
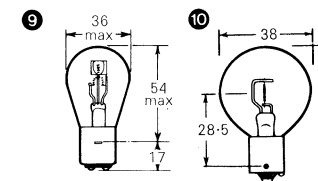
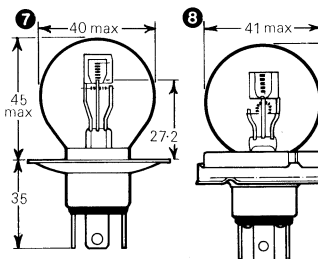
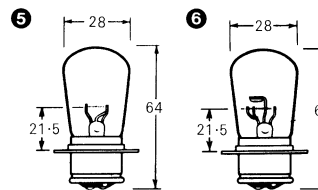
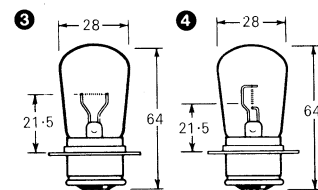
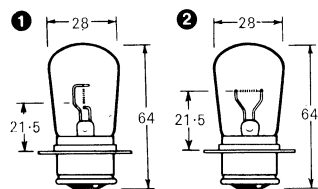
**463 Kit** comprises two 12V 60/55W headlamp bulbs plus adaptor plates and two types of retention springs. Tungsten Halogen conversion for many metal reflector headlights. Converts from conventional European bulb ref. 410. Considerable increase in intensities of main and dip beams.



# HALOS

# Prefocus and ordinary headlamps

All dimensions in mm



## PREFOCUS: BRITISH TYPES SINGLE FILAMENT

Lamp Reference no.	Volts	Watts	Filament	Cap	Illustration	Standard pack
26-0185	12	48	Axial	P36s	1	10
26-0323	12	48	Transverse	P36s	2	10
26-0331	24	44	Axial	P36d	4	10
26-0330	24	44	Transverse	P36d	3	10

## DOUBLE FILAMENT

Lamp Reference no.	Volts	Watts	Drive	Dip	Cap	Illustration	Standard pack
26-0312	6	30/24	Either	Vertical	P36d	5	10
26-0414*	12	50/40	RH	Left	P36d	6	10
26-0437*	24	54/44	RH	Left	P36d	6	10
26-0471	12	75/60	RH	Left	P50t	7	10

\*These lamps have transverse shielded filaments

## PREFOCUS: EUROPEAN TYPES

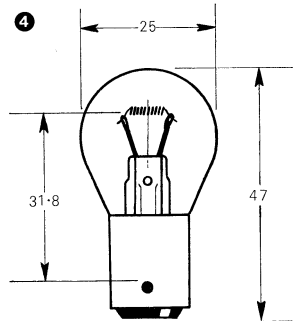
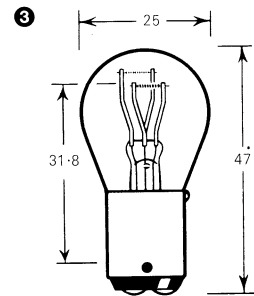
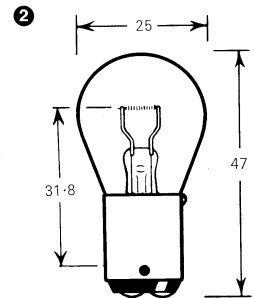
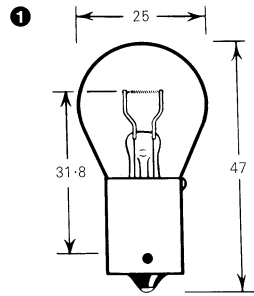
Lamp Reference no.	Volts	Watts	Drive	Dip	Cap	Illustration	Standard Pack
26-0392	6	25/25	Either		BA20d	9	10
26-0423†	6	45/40	Either		P45t	8	10
26-0410†	12	45/40	Either		P45t	8	10
26-0411†	12	45/40 Yellow	Either		P45t	8	10
26-0429†	24	55/50	Either		P45t	8	10

†UEC - Unified European Cap

## ORDINARY TYPES

Lamp Reference no.	Volts	Watts	Filament	Cap	Illustration	Standard pack
25-0001	12	24	Axial	BA15s	10	10
25-0004	12	24	Axial	BA15d	11	10
25-0002	12	36	Axial	BA15s	10	10
25-0005	12	36	Axial	BA15d	11	10
25-0123	24	36	Axial	BA15d	11	10

# Flasher, stop and stop/tail lamps Side and tail lamps



## FLASHER, STOP AND STOP/TAIL

Lamp Reference no.	European Reference no.	Volts	Watts	Cap	Illustration	Standard pack
25-0317	P25-1	6	21	BA15s	1	10
25-0319	P25-1	6	21	BA15d	2	10
25-0384	P25-2	6	21/5	BA15d	3	10
25-0382	P25-1	12	21	BA15s	1	10
25-0335	P25-1	12	21	BA15d	2	10
25-0343 Amber bulb		12	21	BA15s	1	10
25-0381		12	21/5	BA15d	3	10
25-0380	P25-2	12	21/5	BA15d	3	10
25-0334		24	24/6	BA15d	3	10
25-0241	P25-1	24	21	BA15s	2	10
25-0346	P25-1	24	21	BA15d	2	10

## Heavy Duty Lamps

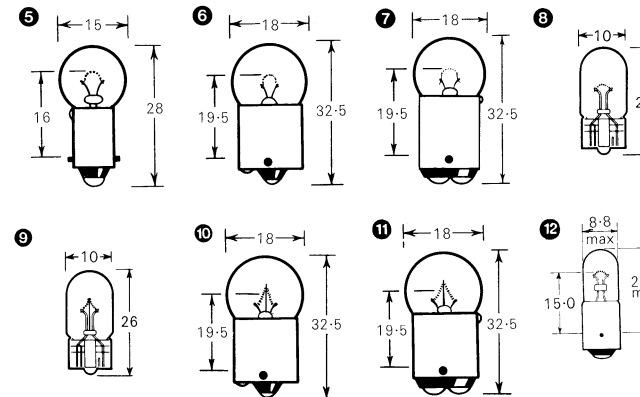
25-0290	P25-1	24	21	BA15s	4	10
25-0291	P25-1	24	21	BA15d	4	10

## SIDE AND TAIL

Lamp Reference no.	European Reference no.	Volts	Watts	Cap	Illustration	Standard pack
20-0951		6	6	BA9s	5	10
20-0205	R19/5	6	5	BA15s	6	10
20-0206	R19/5	6	5	BA15d	7	10
20-0233	T8/4	12	4	BA9s	12	10
20-0222		12	4	BA9s	5	10
20-0501	W10	12	5	W2-1 x 9.5d	8	10
20-0989		12	5	BA9s	5	10
20-0207	R19/5	12	5	BA15s	6	10
20-0209		12	5	BA15d	7	10
20-0507	W10	24	5	W2-1 x 9.5d	9	10
20-0149	R19/5	24	5	BA15s	10	10
20-0150	R19/5	24	5	BA15d	11	10
20-0227		24	6	BA9s	5	10
20-0228		28	6	BA15d	11	10

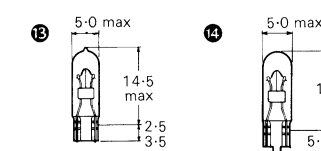
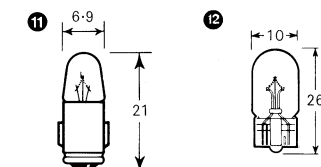
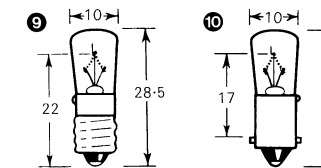
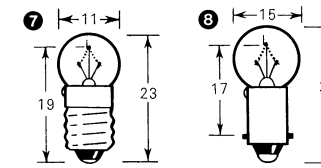
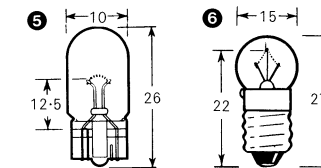
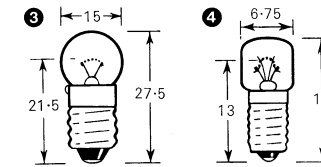
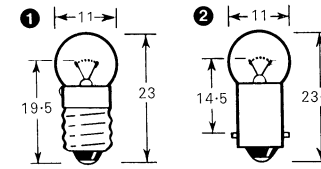
## Heavy Duty Lamps

20-0247	R19/5	24	6	BA15d	11	10
20-0248	R19/5	24	6	BA15s	10	10



All dimensions in mm

# Panel and indicator lamps Festoon, other Wedge Base lamps



## INDICATOR, PANEL AND INSTRUMENT WARNING

Lamp Reference no.	Volts	Watts	Cap	Illustration	Standard pack
21-0990	6	3	E10/13	1	10
21-0641	6	3	BA9s	2	10
21-0950	6	6	E10/13	3	10
21-0286	12	1.2	W2 x 4.6d	14	10
21-2097	12	1.2	W2 x 4.6d	13	10
21-0280	12	1.5	E5/8	4	10
21-0606	12	1.5	W2-1 x 9.5d	5	10
21-2104	12	1CP	W2-1 x 9.5d	5	10
21-0281	12	2	BA7s/11	11	10
21-0987	12	2.2	E10/13	1	10
21-0643	12	2.2	BA9s	2	10
21-0504	12	3	W2-1 x 9.5d	5	10
21-0984	12	3.6	E10/13	1	10
21-0985	16	3	E10/13	6	10
21-0650	24	2.8	E10/13	7	10
21-0651	24	2.8	BA9s	8	10
21-0695	24	2.8	E10/13	9	10
21-0993	24	2.8	E10/13	6	10
21-2020	24	2.8	BA9s	10	10
21-0505	24	3	W2-1 x 9.5d	12	10

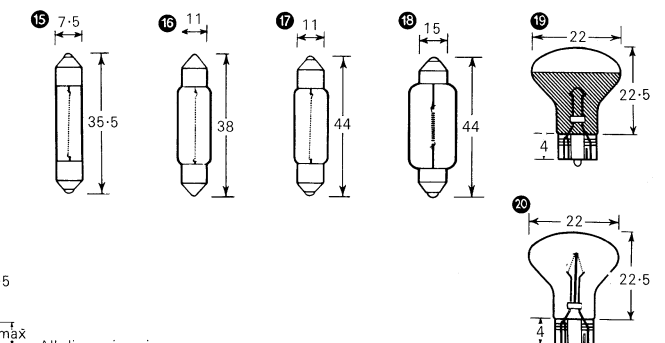
## FESTOON

Lamp Reference no.	European Reference no.	Volts	Watts	Cap	Illustration	Standard pack
23-0255		6	3	S7/8	15	10
23-0253		6	6	S8-5/8	16	10
23-0256		12	3	S7/8	15	10
23-0254		12	6	S8-5/8	16	10
23-0272		12	10	S8-5/8	16	10
23-0270		12	18	S8-5/8	18	10
23-0273	C15	12	21	S8-5/8	18	10
23-0653		24	6	S8-5/8	16	10
23-0260		24	6	S8-5/8	17	10
23-0274		24	10	S8-5/8	16	10

## OTHER WEDGE BASE

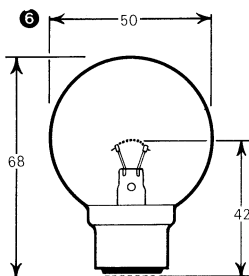
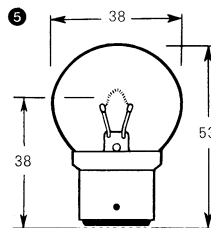
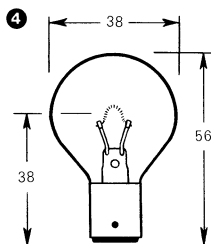
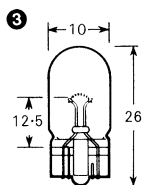
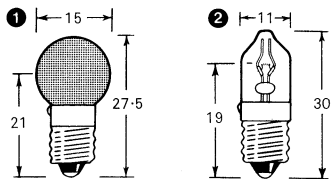
Lamp Reference no.	Volts	Watts	Cap	Illustration	Standard pack
20-0503†	12	5	W2-1 x 9.5d	19	10
28-6624 (A400)	28	2.8	W2-1 x 9.5d	12	10
28-6680 (A401)	28	11	W2-1 x 9.5d	20	10

†Externally silvered



All dimensions in mm

# Cycle dynamo lamps Bus, Coach and Yacht lamps



## CYCLE DYNAMO LAMPS

### Headlamps

Lamp	Reference no.	Volts	Amps	Cap	Finish	Illustration	Standard pack
	24-2162	6	0.2	MES	Granulated	1	10
	24-2012	6	0.25	MES	Granulated	1	10
	24-2049	6	0.25	Wedge base	Clear	3	10
	24-0997	6	0.5	MES	Granulated	1	10

### Tail and battery operated lamps

	24-0991	6	0.04	MES	Clear	2	10
	24-0998	6	0.1	MES	Clear	2	10
	24-2048	6	0.1	Wedge base	Clear	3	10

## BUS, COACH & YACHT

### For interior lighting

Lamp	Reference no.	Volts	Watts	Cap	Finish	Illustration	Standard pack
	27-3123	12	12	BC	Pearl	5	100
	27-3124	12	12	SBC	Pearl	4	100
	27-3204	12	24	BC	Pearl	5	100
	27-3205	12	24	SBC	Pearl	4	100
	27-3128	24	12	BC	Clear	5	100
	27-3129	24	12	SBC	Clear	4	100
	27-3131	24	12	BC	Pearl	5	100
	27-3132	24	12	SBC	Pearl	4	100
	27-3230	24	12	BC	Pearl	6	100
	27-3250	24	15	BC	Pearl	6	100
	27-3264	24	20	BC	Pearl	6	100
	27-3184	24	20	BC	Pearl	5	100
	27-3182	24	20	SBC	Clear	4	100
	27-3185	24	20	SBC	Pearl	4	100

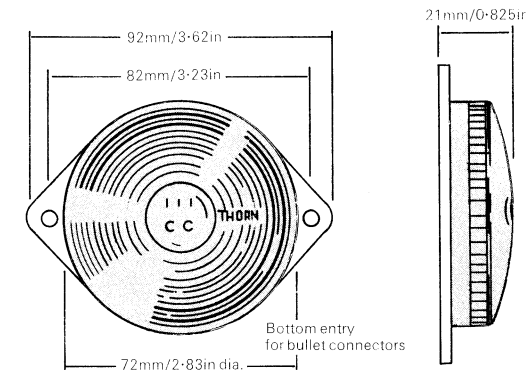
All dimensions in mm

# Marker lights

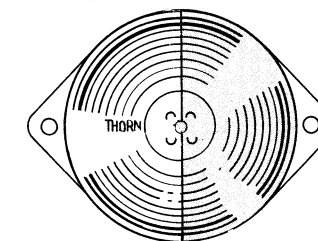
Designed for long vehicles—trucks, trailers, artics, etc.—to comply with the requirements of the Road Vehicle Lighting Regulations 1971 Part VIII and the Road Transport Lighting Act 1957.

Markerlights are of three forms, each available in either 12v or 24v:  
Red/White—for side marker lamps  
Red—for rear marker\* lamps.  
White—for front marker\* lamps.  
Markerlights are shallow mounting and the carefully designed Fresnel lens ensures optimum light distribution. Base and lens are petrol and oil resistant and the markerlight accepts standard auto bullet connectors.

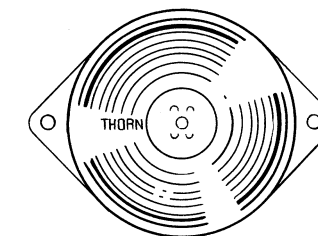
The slim design and appearance of markerlights make them equally appropriate for additional lighting on smaller trailers—caravans, camping and boat trailers, etc.  
\*N.B. Front and Rear Markerlights are additional to and not used in place of the obligatory vehicle side or tail lamps.  
Use for wide loads or high vehicles etc.



Rear Markerlight



Side Markerlight



Front Markerlight

### Side Markerlights

			Reference no.
Left hand side	White/Red	12v 3w	23-9901
		24v 3w	23-9911
Right hand side	Red/White	12v 3w	23-9902
		24v 3w	23-9912

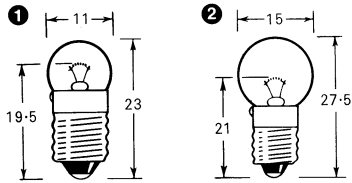
### Rear Markerlights

Rear	Red	12v 3w	23-9903
		24v 3w	23-9913

### Front Markerlights

Front	White	12v 3w	23-9904
		24v 3w	23-9914

# Flashlamps Miners lamps



## FLASHLAMPS Ordinary type

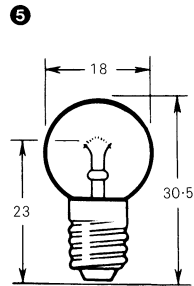
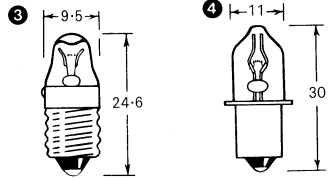
Lamp Reference	Volts	Amps	Cap	Illustration	Standard pack
22-0390	1.5	0.2	MES	1	10
22-0970	2.5	0.2	MES	1	10
22-0972	2.5	0.3	MES	1	10
22-0974	3.5	0.15	MES	1	10
22-0977	3.5	0.3	MES	1	10
22-2003	5	0.15	MES	2	10
22-2004	4.5	0.3	MES	2	10
22-2076	5.5	0.3	MES	2	10

## Lens end type

22-2031	2.2	0.25	MES	3	10
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## Prefocus flashlights

22-2046	2.5	0.3	P13.5s	4	10
22-2061	3.5	0.3	P13.5s	4	10
22-2077	5.5	0.3	P13.5s	4	10

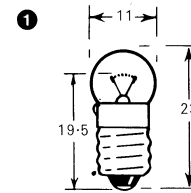


## MINERS LAMPS

Lamp Reference	Volts	Amps	Cap	Illustration	Type	Standard pack
24-5106	4	0.46	MES	1	Vacuum	25
24-5657	3.6	1	MES	5	Krypton	25
24-5721	4	0.8	MES	5	Krypton	25
24-5726	4	0.9	MES	5	Krypton	25
24-5730	4	1	MES	5	Krypton	25

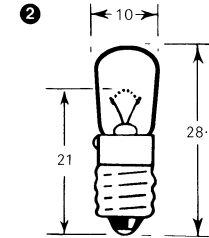
All dimensions in mm

# Radio and subminiature lamps Telephone Visual and Telewriter lamps



## RADIO PANEL LAMPS

Lamp Reference	Volts	Amps	Cap	Illustration	Standard pack
21-3025	6.2	0.3	MES	2	10
21-3094	6.3	0.11	MES	1	10
21-3074	6.3	0.15	MCC	3	10
21-3051	6.3	0.15	MES	2	10
21-3043	6.3	0.25	MCC	3	10
21-3029	6.5	0.35	MES	1	10
21-3030	6.5	0.3	MCC	4	10
21-3028	6.5	0.3	MES	2	10
21-3027	6.5	0.3	MCC	3	10



## SUBMINIATURE PANEL LAMPS

Lamp Reference	Volts	Amps	Cap	Illustration	Standard pack
28-6201	6	0.1	S6s/8	5	50
28-6202	6	0.2	S6s/8	5	50
28-6301	12	0.1	S6s/8	6	50
28-6595*	28	0.04	S6s/8	7	50
28-6601	28	0.04	S6s/8	7	50
28-6615	28	0.08	S6s/8	7	50

\*Long life lamp

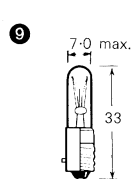
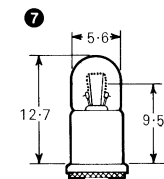
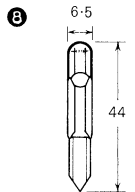
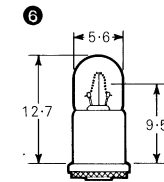
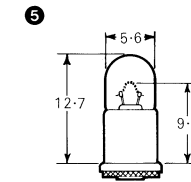
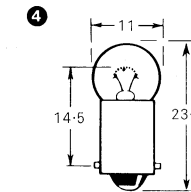
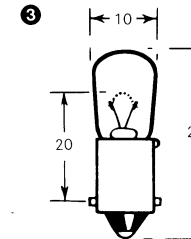
## TELEPHONE VISUAL LAMPS

Side contact plates and coloured endpieces

Lamp Reference no.	Volts	Amps	Filament	Endpiece colour	Illustration	Standard pack
24-3125	6	0.041	No. 2 Metal	Grey	8	50
24-3141	12	0.10	No. 2 Metal	Red	8	50
24-3171	24	0.10	No. 2 Metal	Yellow	8	50
24-3001	12	0.117	No. 2 Carbon	Red	8	50
24-3035	50	0.107	No. 2 Carbon	White	8	50

## TELEWRITER LAMPS

Lamp Reference no.	Volts	Watts	Cap	Illustration	Standard pack
24-3626	50	2.5	MCC	9	50
24-3627	50	2.5	MES	9	50
24-3702	60	3.6	MES	9	50



All dimensions in mm

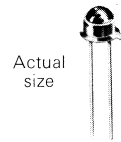
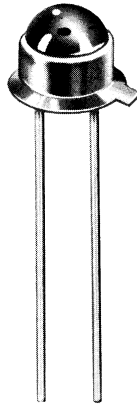
# Semiconductor lamps

Gallium Arsenide Phosphide lamps are a new type of semiconductor junction electroluminescent device. They have electrical characteristics similar to a normal diode but with the distinguishing feature that visible radiation is generated at the junction when biased in the forward direction.

The Thorn lamps offer high visibility for low power consumption. The encapsulation ensures stable, ultra-long life expectancy and high resistance to vibration or shock and offers typical solid state reliability.

### Types

The range of THORN semiconductor lamps has been extended to include a diffuse lensed red 60mA lamp and Red, Yellow and Green 20mA lamps. The principal features are shown below. All lamps are of the TO18 form.



### Characteristics

#### GENERAL:

Reference no.	49-1001	49-1002	49-1003	49-1101	49-1121	49-1141
Colour	Red	Red	Red	Red	Yellow	Green
Normal current	60mA	60mA	60mA	20mA	20mA	20mA
Lens	clear	clear	diffused	clear	clear	clear
Features	High performance, - High luminance over wide viewing angle	Semi-directional - for narrower viewing angle	- for large area of illumination	High contrast isolated leads	High contrast, isolated leads	High contrast, isolated leads

#### OPERATING: (Typical values)

	49-1001	49-1002	49-1003	49-1101	49-1121	49-1141
Total flux	5.0mL	2.0mL	4.0mL	1.5mL	1.5mL	1.5mL
Peak wavelengths	670nm	670nm	670nm	670nm	590nm	565nm
Max. forward voltage for rated current	1.85V	1.85V	1.85V	1.8V	2.5V	3.0V
Max. leakage current for 5V reverse	10µA	10µA	10µA	10µA	10µA	10µA
Absolute maximum ratings:						
Max. forward current at 20°C	100mA	100mA	100mA	40mA	40mA	40mA
Max. reverse voltage	6V	6V	6V	6V	6V	6V
Operating temperature at rated current	-40°C to +50°C	-40°C to +50°C	-40°C to +50°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Storage temperature range	all types -40°C to 100°C					

# Lamp cap dimensions

Dimensions and details of the caps used on the range of vehicle and miniature lamps are given below. All dimensions in mm.

