

Diodes

silicon whiskerless diodes

book 1 part 3

Type No.	Description	Outline	Drawing ref.	V_{RRM} (V)	I_{FRM} (mA)	I_{FAV} (mA)	C_{dmax} (pF)	V_F (V)	max at I_F (mA)	Max. Reverse Recovery Time measured at:				
										t_{rr} (ns)	I_F (mA)	V_R (V)	R_L (Ω)	I_R (mA)
BA314	Low voltage stabiliser	DO-35	H	—	250	—	140	0.96	100	—	—	—	—	—
BA316 BA317 BA318	10V, 30V and 50V general purpose diodes	DO-35	H	10 30 50	225	100	3	1.1	100	4	10	6	100	1
BAV10	High speed diode for core gating applications in very fast memories	DO-35	H	60	600	300	2.5	1.0	200	6	400	—	100	40
BAV18 BAV19 BAV20 BAV21	General purpose switching diodes	DO-35	H	60 120 180 250	625	200	5	1.25	200	50	30	—	100	3
BAW21A BAW21B	Controlled - avalanche diodes for switching inductive loads in semi-electronic telephone exchanges	DO-35	H	70 90	800	400	35	1.0	200	300	30	—	100	3
BAW62	High speed diode for fast logic applications	DO-35	H	75	225	100	2	1.0	100	4	10	1	100	1
BAX12	Controlled avalanche diode Avalanche 120–175V at 1mA	SOD-17	K	90	800	400	35	1.0	200	60	30	3	100	1
BAX13	High speed diode intended for logic applications	DO-35	H	50	150	75	3	1.0	20	4	10	6	100	1
BAX16	Intended for general purpose industrial applications	DO-35	H	150	300	200	10	1.3	100	120	30	3	100	1
BAX17	Intended for general purpose industrial applications	DO-35	H	200	300	200	10	1.2	200	120	30	3	100	1
OA200 OA202	General purpose diodes	DO-35	H	50 150	250	80	25	1.15	30	3.5 μ (typ)	30	35	2.5k	4
1N914 1N918	High speed diodes for computer and other applications	DO-35	H	100	225	75	4 2	1.0	10	4	10	6	100	1
1N4148	High speed diode for computer and other applications.	DO-35	H	75	225	75	4	1.0	10	4	10	6	100	1

tuner diodes

Type No.	Description	Outline	Drawing ref.	$V_{Rmax.}$ (V)	$I_{Rmax.}$ (μ A)	C_{9at} V_R (pF)		V_R (V)	Capacitance Ratio	
						min.	max.		min.	max.
BA102A BA102B BA102C BA102D	Intended for a.f.c. control in tv receivers	DO-7	D1	20	5	20 23 29 36	25 31 38 45	4	1.4	—
BA162	Band switching in v.h.f. tv tuners	SOD-23	M	35	0.1	0.6	1.0	20	—	—
BA243 BA244	Band switching in v.h.f. tv tuners	DO-35	H	20	0.1	—	2.0	15	$r_D < 1\Omega$ $< 0.5\Omega$	
BA280	Schottky barrier u.h.f. mixer diode	SOD-23	M	4	0.25	—	1.0	0	—	—
BA379	For controlled attenuators in v.h.f. and u.h.f. tv tuners	SOD-52	W	30	1.0	0.3 typ	0	—	—	—
BB106	Intended for v.h.f. tuners	SOD-23	M	28	0.05	4	5.6	25	4.5	6
BB110B BB110G	Silicon planar variable capacitance diodes for tuning in band II f.m. and for r.f. and interstage circuits	SOD-23	M	30	0.02	27 29	31 33	3	2.65 typ.	—
*BB205B *BB205G	Intended for u.h.f. tuners Intended for v.h.f. tuners	SOD-23	M	28	0.05	1.9 1.8	2.2 2.6	25	5 4.3	6

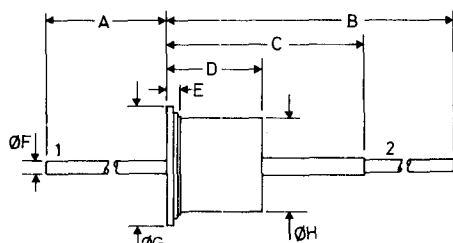
* These diodes are supplied matched to within $\pm 1\%$ either in packs of 12 or in bulk packs of minimum 144 but typically 1,000 to a cumulative total of 6,000 per box. For 6,000 bulk packed diodes the type descriptions are BB205BP and BB205GP.

OUTLINES and DIMENSIONS (millimetres)

A

B.S.3934 SO-16

DO-1
DO-2
DO-3

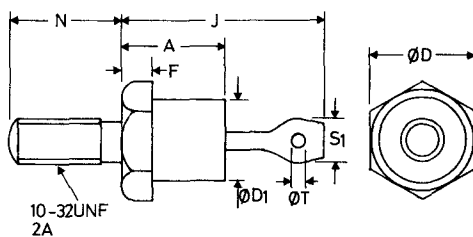


	1	2	A	B	C	D	E	ØF	ØG	ØH
A1	a	k	35	51	17	7.7	1.6	1.1	9.6	7.1
A2	k	a	35	49	17	8.5	1.9	1.1	9.7	7.1
A3	k	a	35	51	17	7.7	1.6	1.1	9.6	7.1

B

B.S.3934 SO-10

DO-4



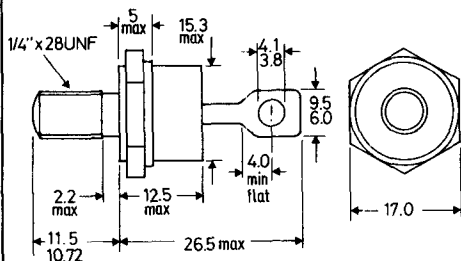
A	10.3 max.	J	20.3 max.
ØD	11.1 max.	N	11.5 max.
ØD1	9.3 max.	S1	4.8 max.
F	3.2	ØT	1.6 min.

	Stud	Eyelet
B1	k	a
B2	a	k

C

B.S.3934 SO-13

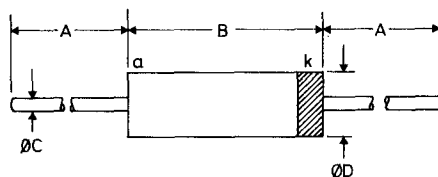
DO-5



	Stud	Eyelet
C1	k	a
C2	a	k

D

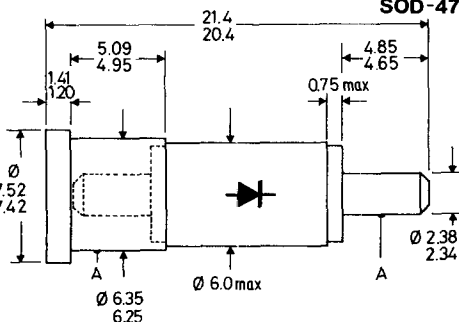
DO-7
DO-14
DO-15



		A	B	ØC	ØD
		min.	max.	nom.	max.
D1	DO-7	25.4	7.6	0.52	2.5
D2	DO-14	25.4	7.6	0.5	3.3
D3	DO-15	25.4	6.4	0.8	3.2

E

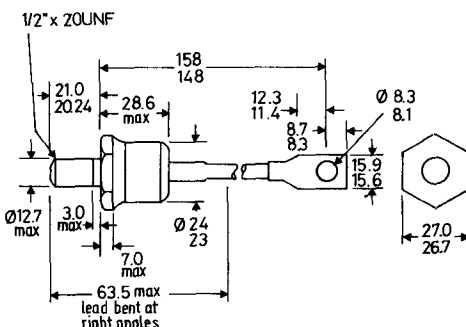
DO-22
SOD-47



A = concentricity tolerance = ± 0.20

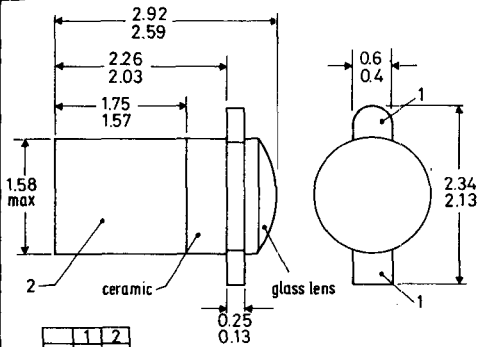
F

DO-30



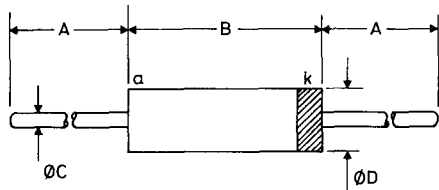
BZW86 Blue sleeve - anode to eyelet
BZW86R Red sleeve - anode to stud

These drawings give limited information for quick reference purposes. For equipment design more complete information should be obtained from individual data sheets in the Technical Handbook or from standard B.S. or JEDEC outline drawings.

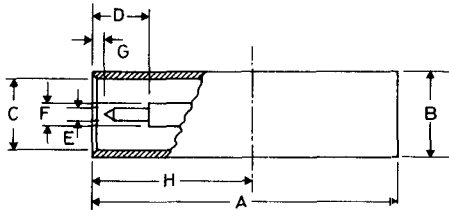
G**DO-31**

	1	2
G1	k	a
G2	e	c

For LED's the overall length = 3.60/2.97

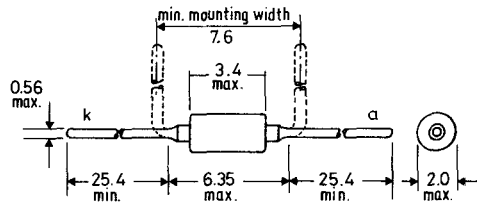
H**DO-35**

A min.	B max.	ØC max.	ØD max.
25.4	4.25	0.56	1.85

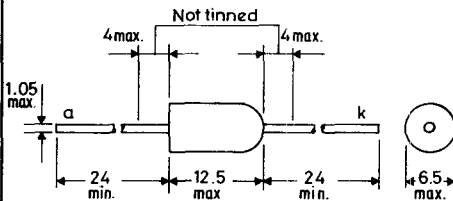
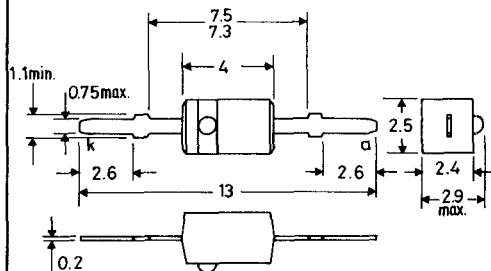
J**DO-37
SOD-49**

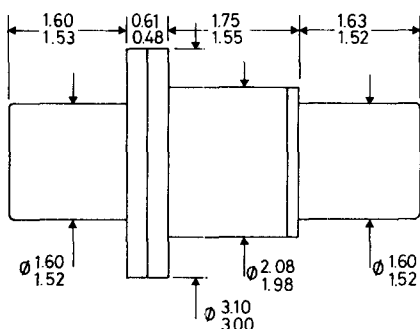
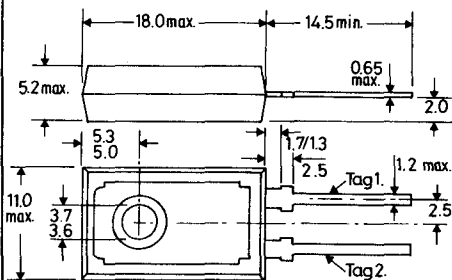
A 19.43/18.67	ØE 0.84/0.79
ØB* 5.59/5.49	ØF 1.57/1.52
ØC 4.80/4.72	G 0.71/0.15
D 3.73 min.	H 10.32 nom.

*These tolerances apply only over H

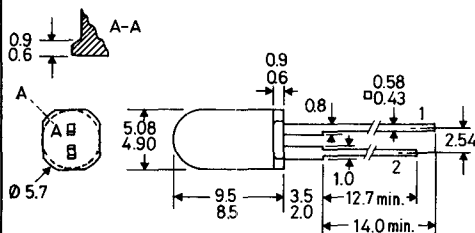
K**SOD-17**

Cathode indicated by the broad band of colour code

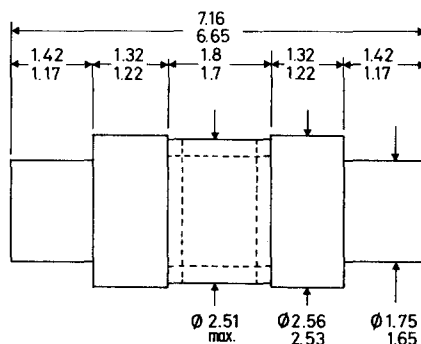
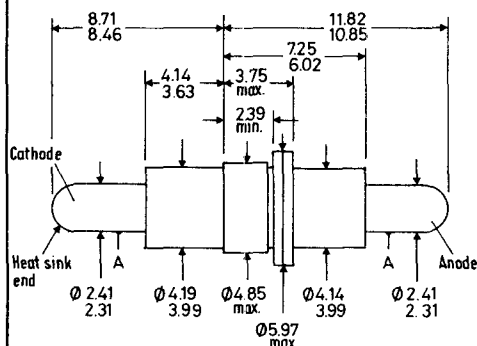
L**SOD-18****M****SOD-23**

N**B.S. 3934 SO 86****SOD-31****O****SOD-38**

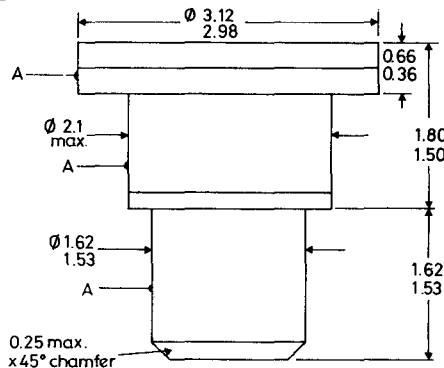
polarity
normal reverse
Tag 1 = base-plate: cathode anode
Tag 2 : anode cathode

P**SOD-39**

	1	2
P1	c(+)	k(-)
P2	e	c

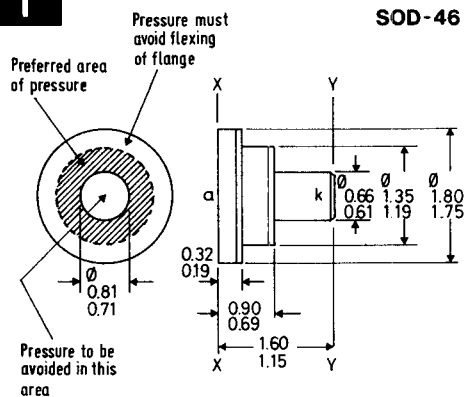
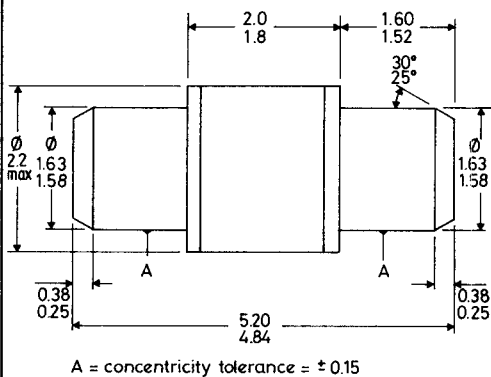
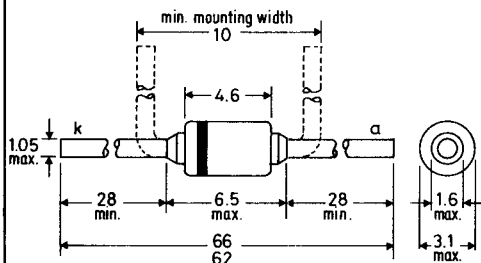
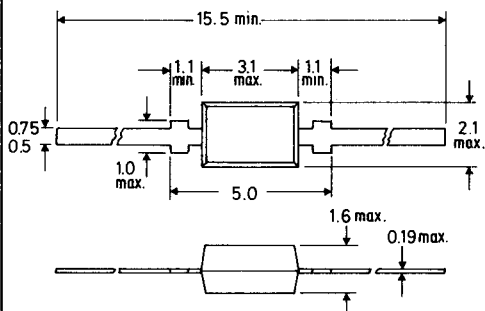
Q**SOD-42****R****SOD-43**

A = concentricity tolerance = ± 0.13

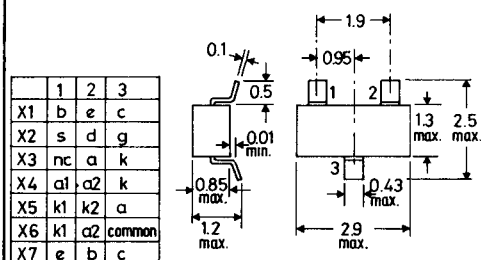
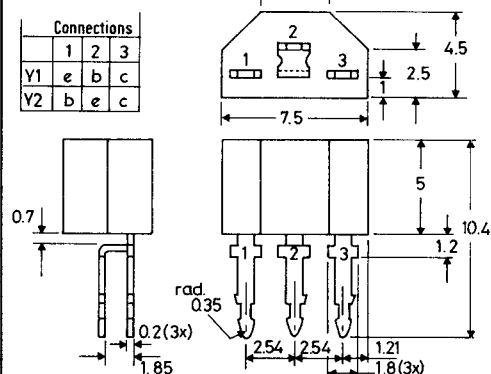
S**SOD-45**

A = concentricity tolerance = ± 0.13

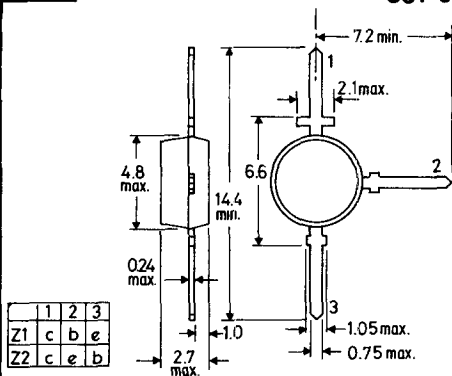
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T**SOD-46****U****SOD-50****V****SOD-51****W****SOD-52**

The coloured end indicates the cathode

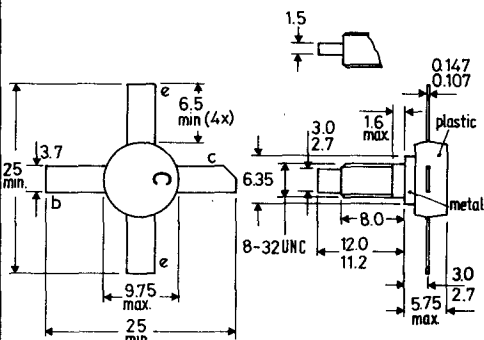
X**SOT-23****Y****SOT-25**

SOT-37

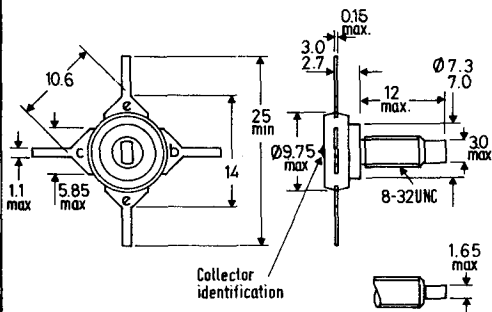


AC

SOT-48/2

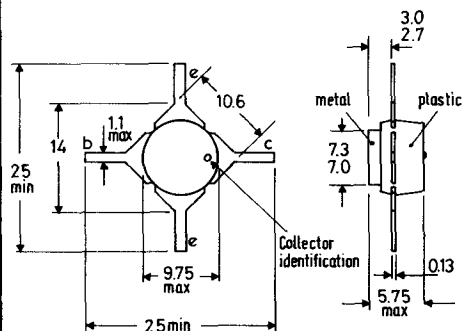


AD

SOT-48/3

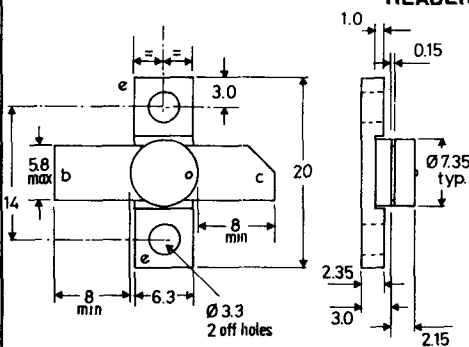
AE

SOT-48/4



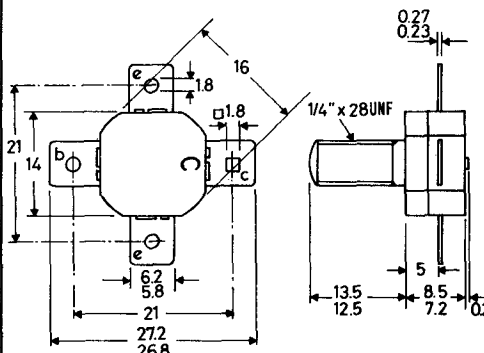
AF

**SOT-48
HEADER**

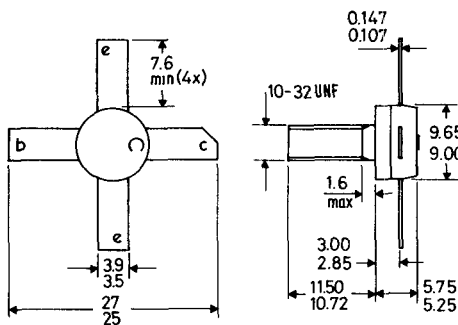
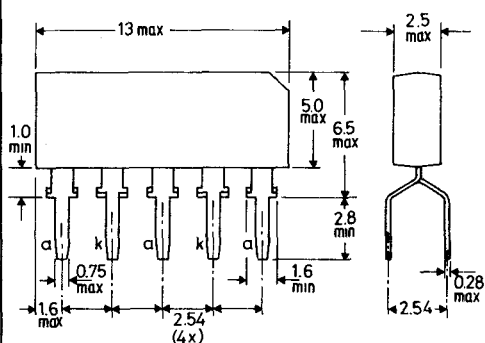
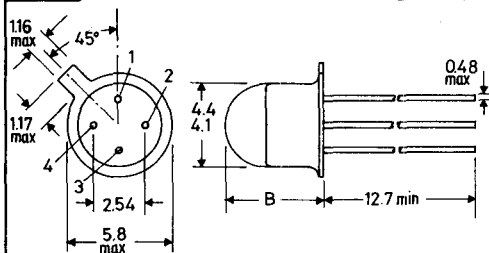


AG

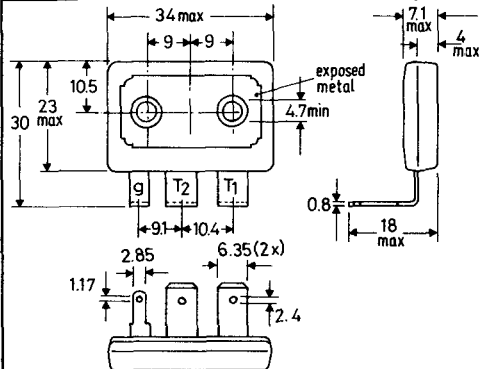
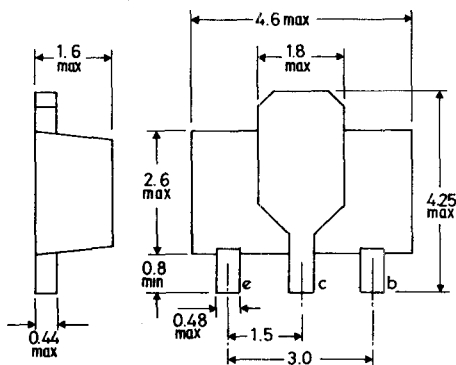
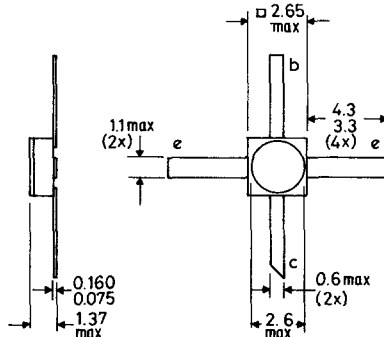
SOT-55

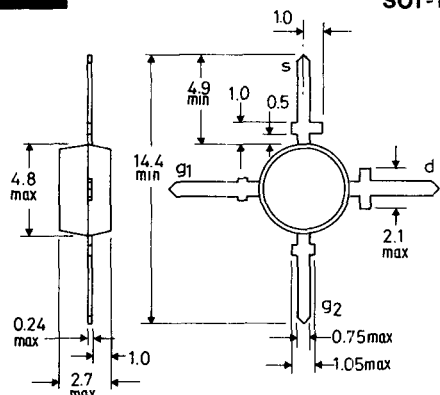
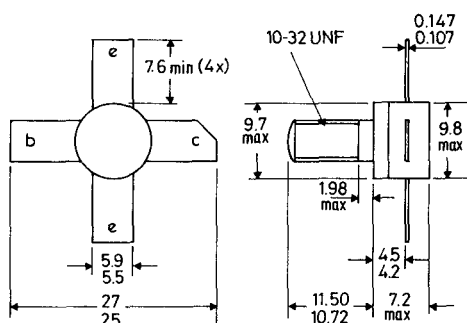
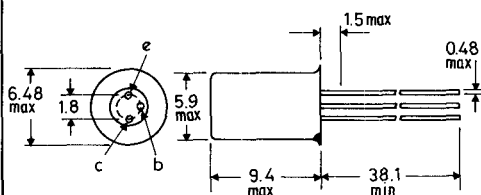
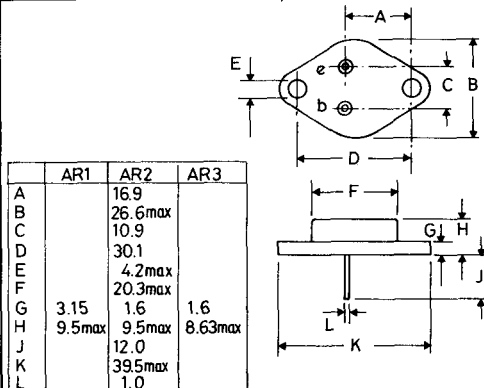
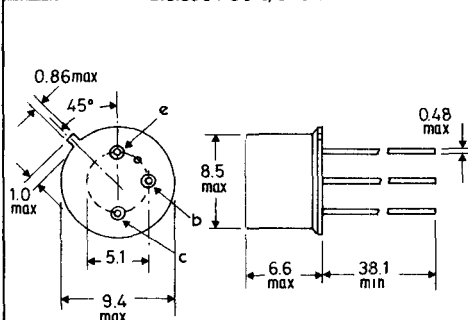


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AH**SOT-56****AJ****SOT-60****AK****SOT-70**

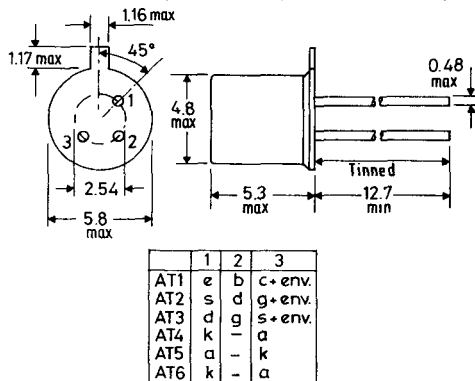
	1	2	3	4	B max
AK1	a	—	k	—	5.08
AK2	e	b	c	—	4.5
AK3	Vp	IP	GND	OP	5.08

AL**SOT-80****AM****SOT-89****AN****SOT-100**

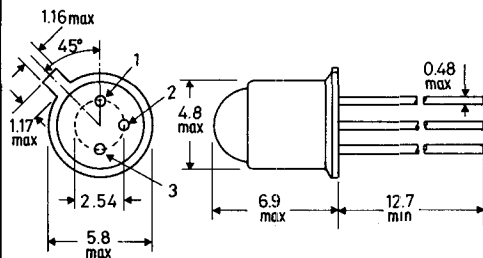
AO**SOT-103****AP****SOT-105****AQ****B.S.3934 SO-21/SB3-10 TO-1****AR****B.S.3934 SO-5B/SB2-2 TO-3****AS****B.S.3934 SO-3/SB3-3B TO-5**

AS1: collector connected to case

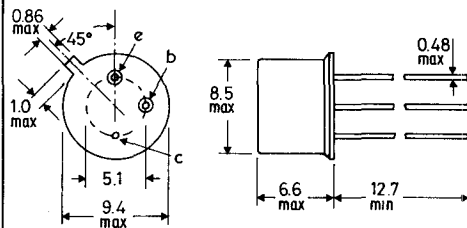
AS2: base connected to case

AT**B.S.3934 SO-12A/SB3-6A TO-18**

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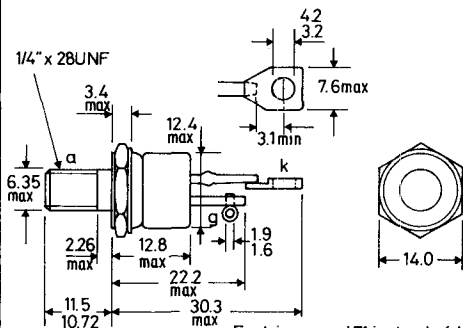
AU**TO-18**
(with lens)

	1	2	3
AU1	a	a	k
AU2	e	b	c+case
AU3	k	-	a

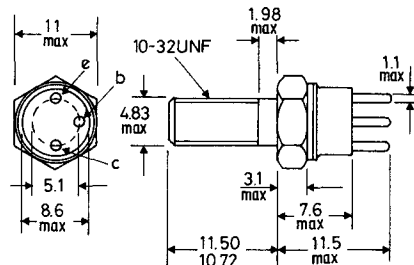
AV**B.S.3934 SO-3/SB3-3A****TO-39**

AV1: b+case
 AV2: case isolated
 AV3: c+case
 AV4: e.cathode
 b.gate
 c.anode+case

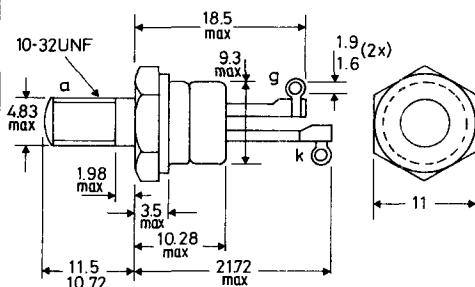
AV5: e.b. cell connections
 c. metal case
 AV6: red spot indicates
 +ve connection

AW**B.S.3932 SO-36****TO-48**

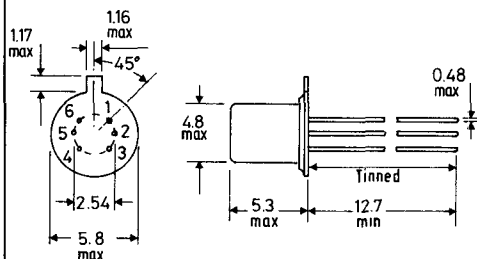
For triacs read T1 instead of k
 T2 instead of a

AX**TO-60**

Emitter connected to envelope

AY**B.S.3934 SO-35A****TO-64**

For triacs read T1 instead of k
 T2 instead of a

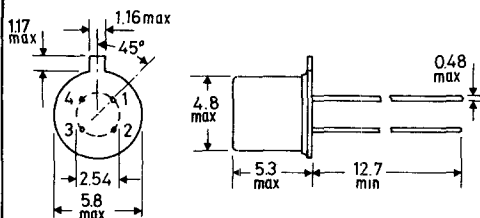
AZ**TO-71**

Pin	1	2	3	4	5	6
AZ1	e1	e2	c2	b2	b1	c1
AZ2	s1	d1	g1	s2	d2	g2

BA

B.S.3934 SO-12A/SB4-3

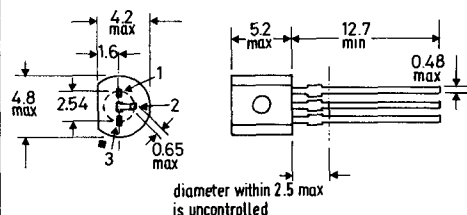
TO-72



	1	2	3	4
BA1	b	e	c	s+envelope
BA2	e	b	c	s+envelope
BA3	s	d	g	screen+envelope
BA4	d	g	1	s+b+envelope
BA5	d	s	g	b+envelope
BA6	k	gk	ga	a

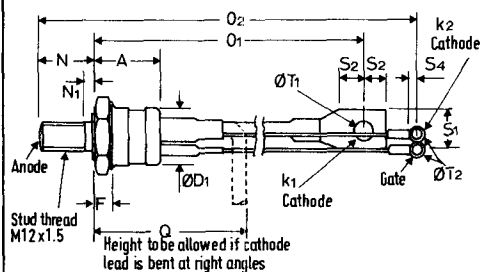
BBTO-92
variant

Pin	1	2	3
BB1	e	b	c
BB2	b	e	c
BB3	d	s	g
BB4	g	a	k
BB5	b	c	e

**BC**

B.S.3934 SO-30C

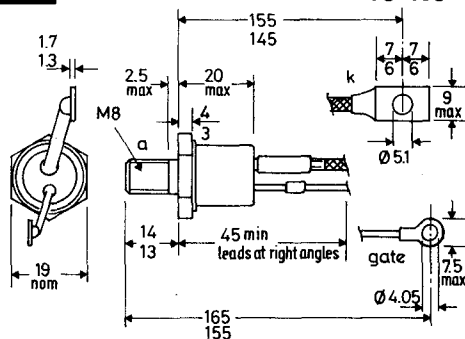
TO-94



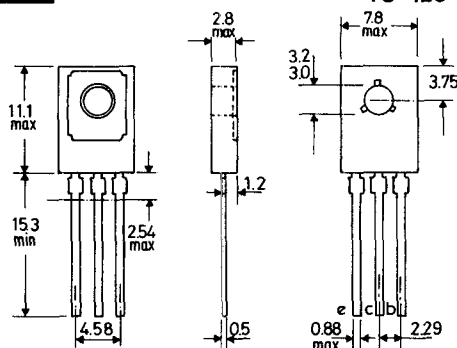
A	28.5max	O1	158 max	S4	3.8 min
ØD1	24.1 max	O2	190 max	ØT1	8.3 max
F	8.9 max	Q	63.5 max	ØT2	4.2 max
N	21.0 max	S1	16.5 max		
N1	3.0 max	S2	9.6 min		

BD

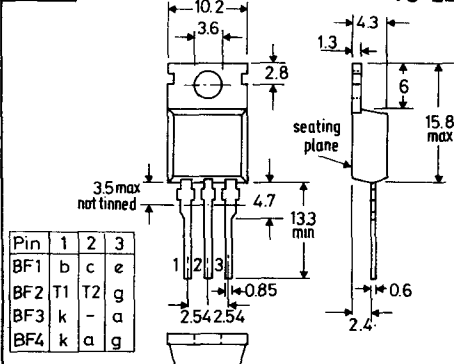
TO-103

For triacs read T1 instead of k
T2 instead of a**BE**

TO-126

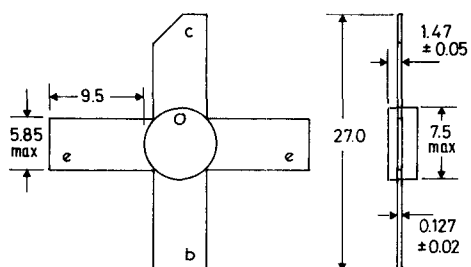
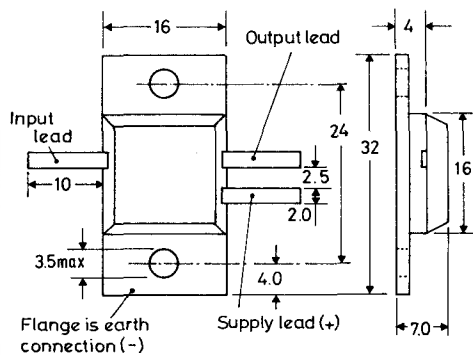
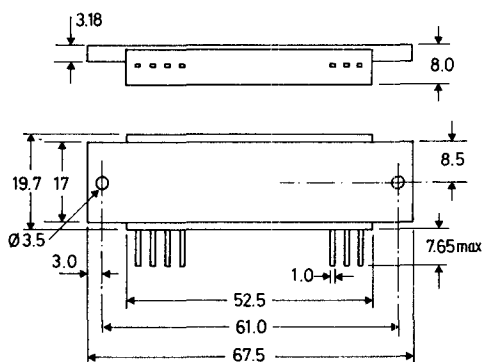
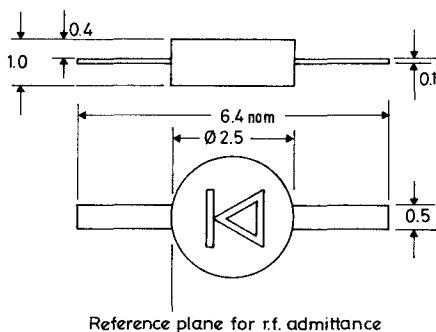
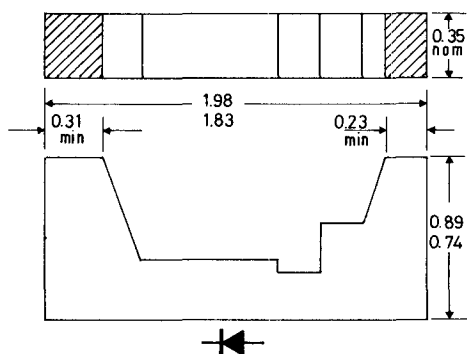
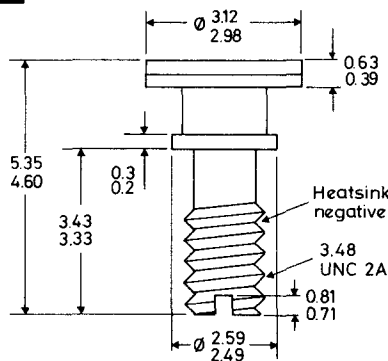
**BF**

TO-220



Pin	1	2	3
BF1	b	c	e
BF2	T1	T2	g
BF3	k	-	a
BF4	k	a	g

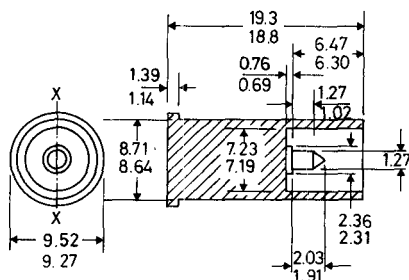
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BG**BH****BJ****BK****BL****BM**

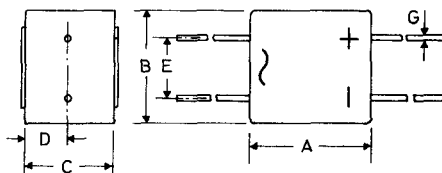
BN

B.S.3934

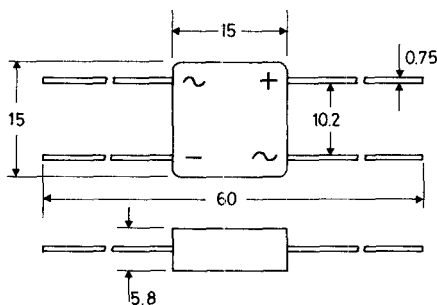
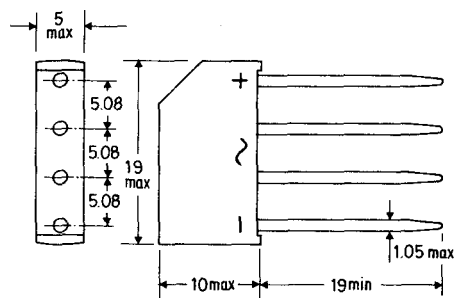
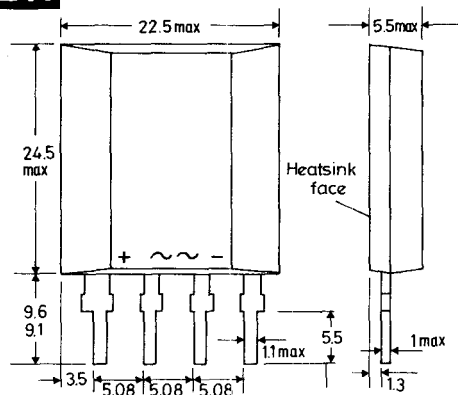
SO-26



(All dimensions max.)

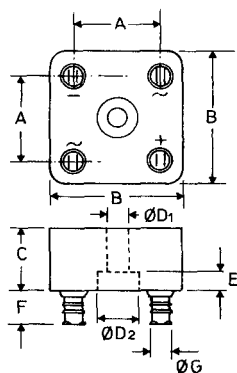
BO

	BO1	BO2	BO3
A	12	20	12
B	10	19	10
C	8	15	8
D	4	75	4
E	5	10	5
F	58	60	48
G	0.75	1.0	1.1

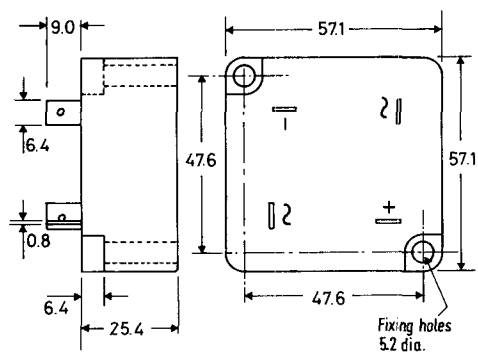
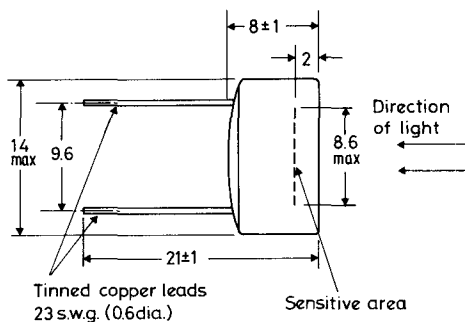
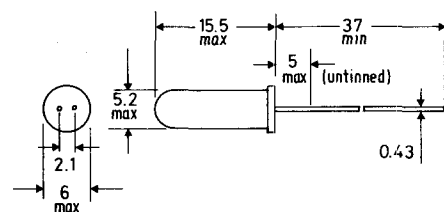
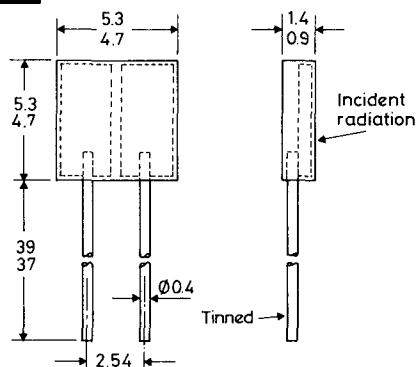
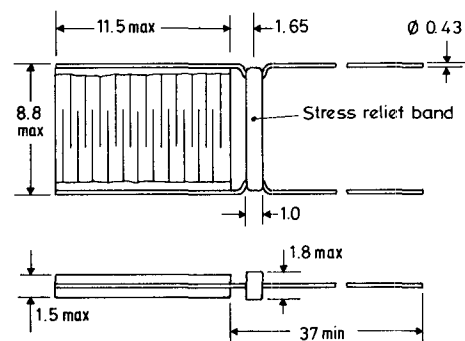
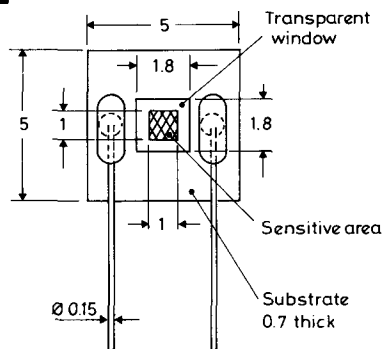
BP**BQ****BR****BS**

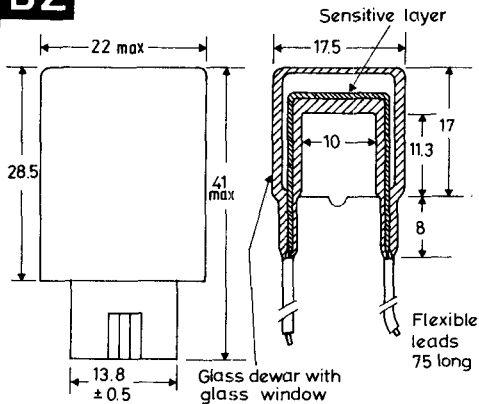
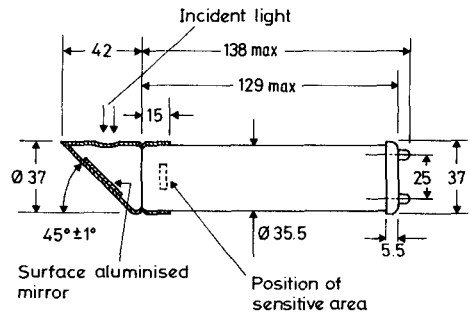
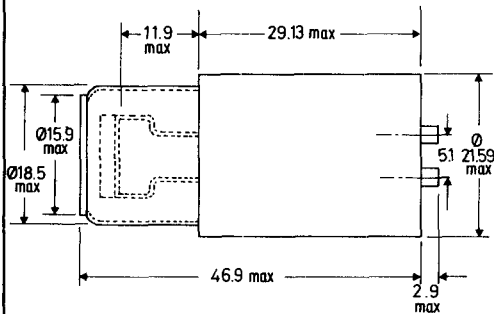
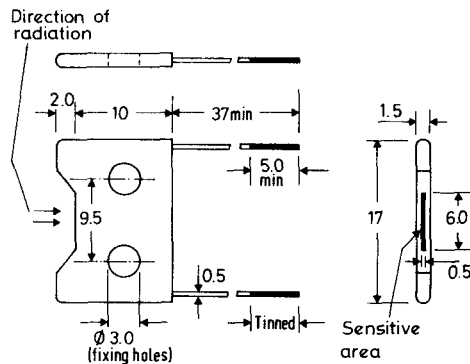
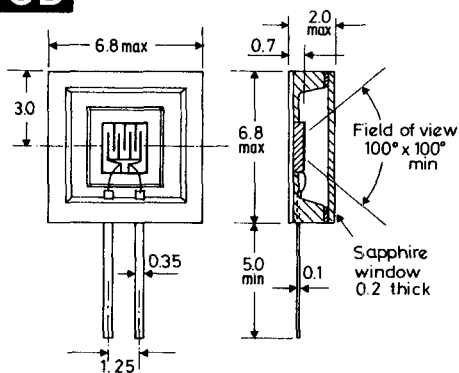
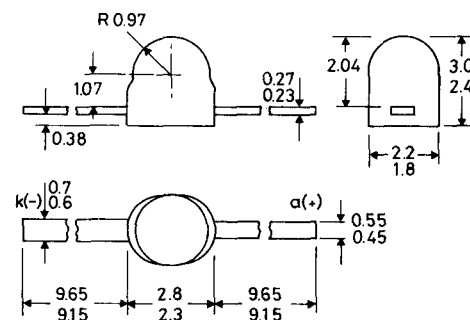
B.S.3934 SO-67

	BS1	BS2
	typ.	max
A	23	21
B	35	34.6
C	17	15.2
ØD1	5	5.05
ØD2	11	11
E	5	3.7
F	9	9
ØG	4.8	4.8

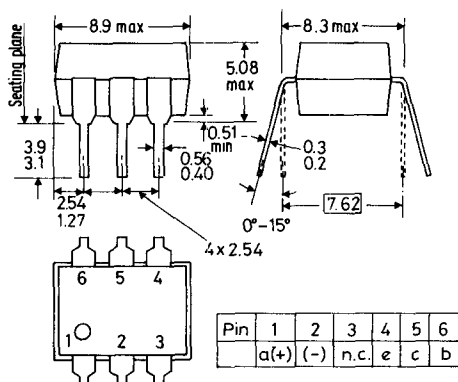
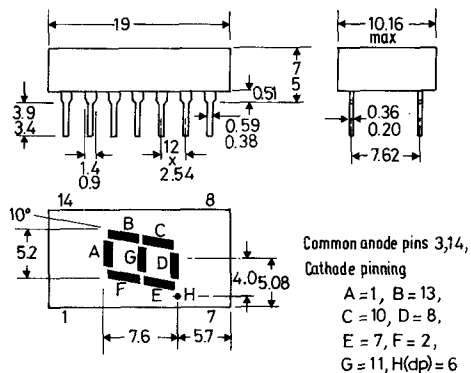
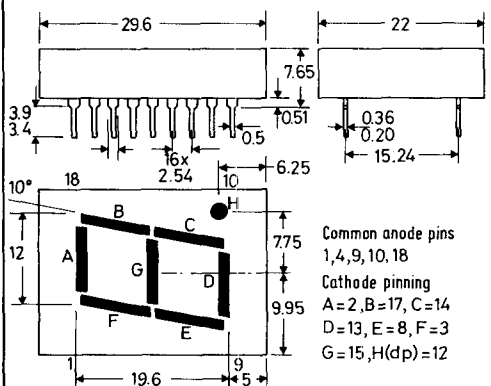


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BT**BU****BV****BW****BX****BY**

BZ**CA****CB****CC****CD****CE**

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CM**CN****CO**

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