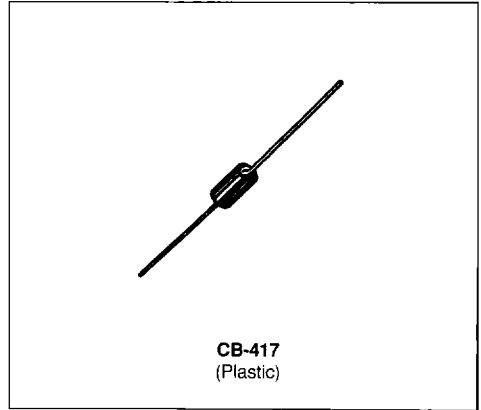




ZENER DIODES

- VOLTAGE RANGE : 3.3V TO 200V
- HERMETICALLY SEALED PLASTIC CASE
- PRO ELECTRON REGISTRATION
- HIGH SURGE CAPABILITY (up to 110W @ 10ms)



**DESCRIPTION**

5W silicon Zener diodes.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter		Value	Unit
$P_{tot}$	Power Dissipation*	$T_{amb} = 50^{\circ}C$	5	W
$I_{ZM}$	Continuous Reverse Current*	$T_{amb} = 50^{\circ}C$	See page 2	mA
$I_{ZSM}$	Peak Reverse Current	$T_{amb} = 25^{\circ}C$	See page 2	A
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 65 to 175	$^{\circ}C$
$T_L$	Maximum Temperature for Soldering during 3s at 5mm from Case		300	$^{\circ}C$

**THERMAL RESISTANCE**

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	25	$^{\circ}C/W$

\* On infinite heatsink with 10mm lead length.

**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25^{\circ}\text{C}$  unless otherwise specified)

Types	$V_{ZT}/I_{ZT}^*$		$r_{ZT}/I_{ZT}$ max ( $\Omega$ ) (1)	$I_{ZT}$ (mA) (1)	$\approx V_Z$ typ ( $10^{-4}/^{\circ}\text{C}$ )	$I_R/V_R$ max ( $\mu\text{A}$ )	$V_R$ (V)	$I_{ZM}$ $T_{amb} = 50^{\circ}\text{C}$ (mA) (2)	$I_{ZSM}$ max (A) (3)
	min	max							
BZV 58 C 3V3	3.1	3.5	3	380	-6.0			1430	15.4
BZV 58 C 3V6	3.4	3.8	2.5	350	-5.5			1310	14.2
BZV 58 C 3V9	3.7	4.1	2	320	-5.0			1220	13.1
BZV 58 C 4V3	4.0	4.6	2	290	-4.0			1090	11.7
BZV 58 C 4V7	4.4	5.0	2	260	-2.0			1000	10.8
<b>P</b> BZV 58 C 5V1	4.8	5.4	1.5	240	1.0			925	10.0
<b>P</b> BZV 58 C 5V6	5.2	6.0	1	220	2.5	20	1	830	9.0
<b>P</b> BZV 58 C 6V2	5.8	6.6	1	200	3.2	10	1	750	8.2
<b>P</b> BZV 58 C 6V8	6.4	7.2	1	175	4.0	10	2	690	7.5
BZV 58 C 7V5	7.0	7.9	1.5	175	4.5	10	2	630	6.8
BZV 58 C 8V2	7.7	8.7	1.5	150	4.8	10	3	570	6.2
BZV 58 C 9V1	8.5	9.6	2	150	5.1	10	6.6	520	5.6
BZV 58 C 10	9.4	10.6	2	125	5.5	10	7.6	470	5.1
BZV 58 C 11	10.4	11.6	2.5	125	6.0	5	8.3	430	8.0
<b>P</b> BZV 58 C 12	11.4	12.7	2.5	100	6.5	2	9.1	390	7.3
BZV 58 C 13	12.4	14.1	2.5	100	6.5	1	9.9	350	6.5
<b>P</b> BZV 58 C 15	13.8	15.6	2.5	75	7.0	1	11.4	320	5.9
<b>P</b> BZV 58 C 16	15.3	17.1	2.5	75	7.0	0.5	12.2	290	5.4
<b>P</b> BZV 58 C 18	16.8	19.1	2.5	65	7.5	0.5	13.7	260	4.8
BZV 58 C 20	18.8	21.2	3	65	7.5	0.5	15.2	235	4.4
<b>P</b> BZV 58 C 22	20.8	23.3	3.5	50	8.0	0.5	16.7	215	4.0
<b>P</b> BZV 58 C 24	22.8	25.6	3.5	50	8.0	0.5	18.2	195	3.6
<b>P</b> BZV 58 C 27	25.1	28.9	5	50	8.5	0.5	20.5	170	3.2
<b>P</b> BZV 58 C 30	28	32	8	40	8.5	0.5	22.8	155	2.9
BZV 58 C 33	31	35	10	40	8.5	0.5	25	140	2.6
<b>P</b> BZV 58 C 36	34	38	11	30	8.5	0.5	27.4	130	2.4
BZV 58 C 39	37	41	14	30	9.0	0.5	29.6	120	2.3
BZV 58 C 43	40	46	20	30	9.0	0.5	32.7	110	2.0
BZV 58 C 47	44	50	25	25	9.0	0.5	35.7	100	1.8
BZV 58 C 51	48	54	27	25	9.0	0.5	38.8	92	1.7
BZV 58 C 56	52	60	35	20	9.0	0.5	42.5	83	1.5
<b>P</b> BZV 58 C 62	58	66	42	20	9.0	0.5	47.1	75	1.4
BZV 58 C 68	64	72	44	20	9.0	0.5	51.7	69	1.3
BZV 58 C 75	70	79	45	20	9.0	0.5	57	63	1.2
BZV 58 C 82	77	87	65	15	9.0	0.5	62.4	57	1.1
BZV 58 C 91	85	96	75	15	9.0	0.5	69.2	52	1.0
<b>P</b> BZV 58 C 100	94	106	90	12	9.0	0.5	76	47	0.87
BZV 58 C 110	104	116	125	12	9.5	0.5	83.5	43	0.80
BZV 58 C 120	114	127	170	10	9.5	0.5	91.2	39	0.73
BZV 58 C 130	124	141	190	10	9.5	0.5	98.8	35	0.65
<b>P</b> BZV 58 C 150	138	156	330	8	9.5	0.5	114	32	0.59
BZV 58 C 160	153	171	350	8	9.5	0.5	122	29	0.54
<b>P</b> BZV 58 C 180	168	191	430	5	9.5	0.5	137	26	0.48
<b>P</b> BZV 58 C 200	188	212	480	5	10	0.5	152	23	0.44

(1) Pulse test :  $t_p \leq 50\text{ms}$   $\delta < 2\%$ .  
 (2) On infinite heatsink :  $d \approx 10\text{mm}$ .  
 (3) Rectangular waveform ( $t_p = 10\text{ms}$ ).  
 The regulation voltages are defined according to the E24 series.  
**P** : Preferred voltages.  
 Forward voltage drop :  $V_F \leq 1.2\text{V}$  ( $T_{amb} = 25^{\circ}\text{C}$ ,  $I_F = 1\text{A}$ ).

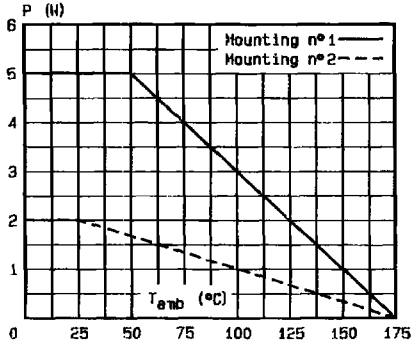


Fig.1 - Power dissipation versus ambient temperature.

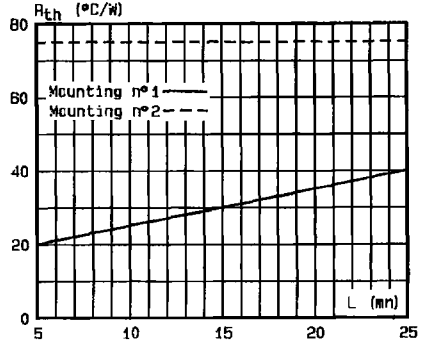


Fig.2 - Thermal resistance versus lead length.

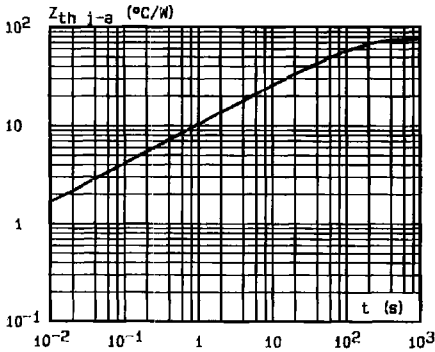


Fig.3 - Transient thermal impedance junction-ambient for mounting n°2 versus pulse duration (L = 10 mm).

Mounting n°1 INFINITE HEATSINK  
Mounting n°2 PRINTED CIRCUIT

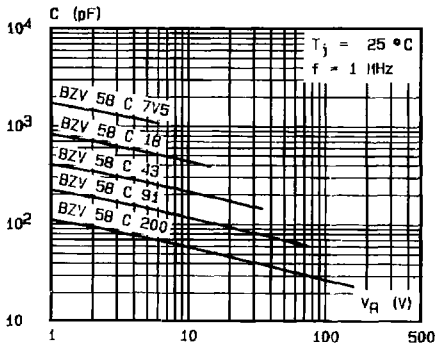
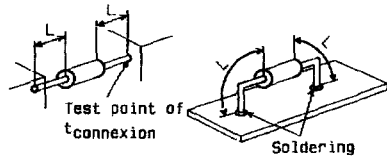


Fig.4 - Capacitance versus reverse applied voltage.

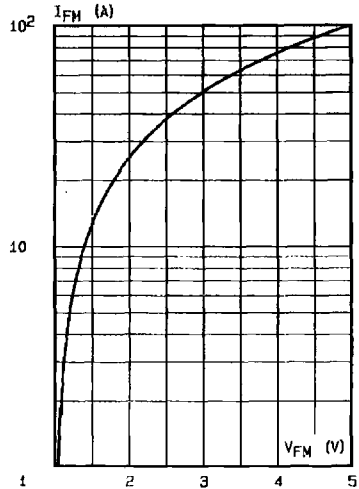


Fig.5 - Peak forward current versus peak forward voltage drop (typical values).

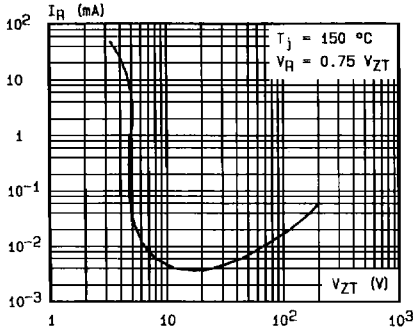


Fig.6 - Reverse current versus regulation voltage (typical values).

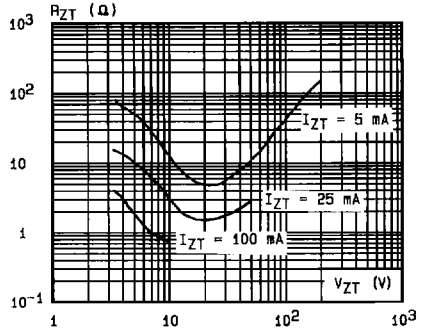


Fig.7 - Differential resistance versus regulation voltage (typical values).

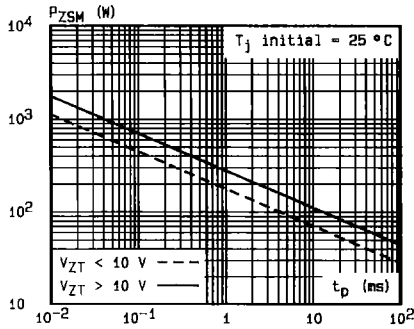
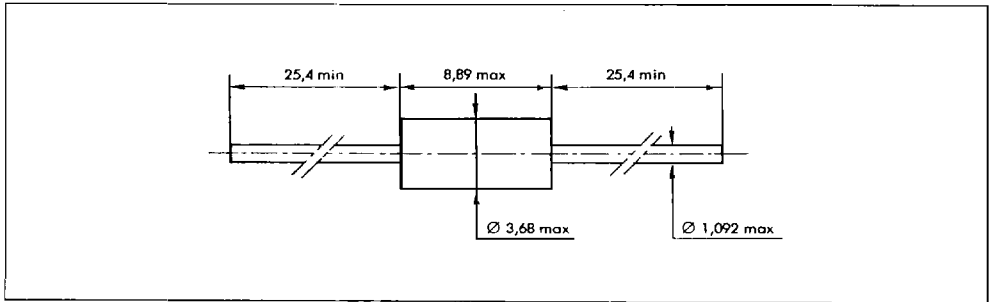


Fig.8 - Peak pulse power versus pulse duration (rectangular wave form) (maximum values).

**PACKAGE MECHANICAL DATA**

CB-417 Plastic



Cooling method : by convection (method A).  
 Marking : clear, ring at cathode end  
 Weight : 0.6g