

**ZENER DIODES**
**NEW SERIE**

- HIGH SURGE CAPABILITY UP TO :  
180W @ 8.3ms
- LARGE VOLTAGE RANGE :  
3.3V → 200V

**SURFACE MOUNT TRANSIL FEATURES**

- A PERFECT PICK AND PLACE BEHAVIOUR
- AN EXCELLENT ON BOARD STABILITY
- A FULL COMPATIBILITY WITH BOTH GLUING AND PASTE SOLDERING TECHNOLOGIES
- BODY MARKED WITH TYPE CODE AND LOGO
- STANDARD PACKAGING : 12mm TAPE (EIA STD. RS481)
- TINNED COPPER LEADS
- HIGH TEMPERATURE RESISTANT RESIN


**SOD 6**  
 (Plastic)

**DESCRIPTION**

5W hermetically sealed plastic silicon Zener diodes.

**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter	Value	Unit
$P_{tot}$	Power Dissipation	$T_{lead} = 50^{\circ}C$ 5	W
$I_{ZM}$	Continuous Reverse Current	$T_{lead} = 50^{\circ}C$ See page 2	mA
$I_{ZSM}$	Peak Reverse Current	$T_{amb} = 25^{\circ}C$ See page 2	mA
$T_{stg}$ $T_j$	Storage and Junction Temperature Range	- 65 to 175	$^{\circ}C$
$T_L$	Maximum Temperature for Soldering during 10s	260	$^{\circ}C$

**THERMAL RESISTANCE**

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

ELECTRICAL CHARACTERISTICS (T<sub>amb</sub> = 25°C unless otherwise specified)

Types	Marking	V <sub>ZT</sub> /I <sub>ZT</sub>	I <sub>ZT</sub>	r <sub>ZT</sub> /I <sub>ZT</sub>	r <sub>ZK</sub> /I <sub>ZK</sub> 1.0 mA	I <sub>R</sub> /V <sub>R</sub>		∞V <sub>Z</sub>	I <sub>ZM</sub> T <sub>load</sub> 50°C	ΔV <sub>Z</sub>	I <sub>ZSM</sub>
		nom (V) (1)	(mA) (1)	max (Ω) (1)	max (Ω) (2)	max (μA) (V)		typ (10 <sup>-4</sup> /°C)	max (mA)	max (V) (2)	max (A) (3)
SM5Z 3V3 A	ZDD	3.3	380	3.0	400	300	1.0	- 6	1440	0.85	15.5
SM5Z 3V6 A	ZDE	3.6	350	2.5	500	150	1.0	- 5.5	1320	0.80	14.2
SM5Z 3V9 A	ZDF	3.9	320	2.0	500	50	1.0	- 5	1220	0.54	13.1
SM5Z 4V3 A	ZDG	4.3	290	2.0	500	10	1.0	- 4	1100	0.49	11.9
SM5Z 4V7 A	ZDH	4.7	260	2.0	450	5.0	1.0	- 2	1010	0.44	10.9
P SM5Z 5V1 A	ZDK	5.1	240	1.5	400	1.0	1.0	1	930	0.39	10.1
P SM5Z 5V6 A	ZDL	5.6	220	1.0	400	1.0	2.0	2.5	865	0.25	9.2
P SM5Z 6V2 A	ZDN	6.2	200	1.0	200	1.0	3.0	3.2	765	0.10	8.3
SM5Z 6V8 A	ZDP	6.8	175	1.0	200	10	5.2	4	700	0.15	7.5
P SM5Z 7V5 A	ZDQ	7.5	175	1.5	200	10	5.7	4.5	630	0.15	6.8
P SM5Z 8V2 A	ZDR	8.2	150	1.5	200	10	6.2	4.8	580	0.20	6.3
SM5Z 9V1 A	ZDT	9.1	150	2.0	150	7.5	6.9	5.1	520	0.22	5.6
P SM5Z 10 A	ZDU	10	125	2.0	125	5.0	7.6	5.5	475	0.22	5.1
P SM5Z 12 A	ZDW	12	100	2.5	125	2.0	9.1	6.5	395	0.25	4.3
SM5Z 13 A	ZDX	13	100	2.5	100	1.0	9.9	6.5	365	0.25	3.9
SM5Z 14 A	ZDY	14	100	2.5	75	1.0	10.6	7	340	0.25	3.7
P SM5Z 15 A	ZDZ	15	75	2.5	75	1.0	11.5	7	315	0.25	3.4
SM5Z 16 A	ZED	16	75	2.5	75	1.0	12.2	7	295	0.30	3.2
P SM5Z 18 A	ZEF	18	65	2.5	75	0.5	13.7	7.5	264	0.40	2.8
P SM5Z 20 A	ZEH	20	65	3.0	75	0.5	15.2	7.5	237	0.40	2.6
P SM5Z 22 A	ZEK	22	50	3.5	75	0.5	16.7	8	216	0.45	2.3
P SM5Z 24 A	ZEL	24	50	3.5	100	0.5	18.2	8	198	0.55	2.1
P SM5Z 27 A	ZEN	27	50	5.0	120	0.5	20.6	8.5	176	0.60	1.9
P SM5Z 30 A	ZEQ	30	40	8.0	140	0.5	22.8	8.5	158	0.60	1.7
P SM5Z 33 A	ZER	33	40	10	150	0.5	25.1	8.5	144	0.60	1.6
SM5Z 36 A	ZES	36	30	11	160	0.5	27.4	9	132	0.65	1.4
P SM5Z 39 A	ZET	39	30	14	170	0.5	29.7	9	122	0.65	1.3
P SM5Z 47 A	ZEV	47	25	25	210	0.5	35.8	9	100	0.80	1.1
P SM5Z 62 A	ZFD	62	20	42	400	0.5	47.1	9	76	1.35	0.83
P SM5Z 82 A	ZFG	82	15	65	720	0.5	62.2	9	58	1.80	0.63
SM5Z 91 A	ZFK	91	15	75	760	0.5	69.2	9	52.5	2.20	0.56
P SM5Z 100 A	ZFL	100	12	90	800	0.5	76.0	9.5	47.5	2.50	0.51
SM5Z 110 A	ZFM	110	12	125	1000	0.5	83.6	9.5	43	2.50	0.47
P SM5Z 150 A	ZFR	150	8.0	330	1500	0.5	114	9.5	31.6	3.00	0.34
P SM5Z 180 A	ZFU	180	5.0	430	1750	0.5	137	9.5	26.4	4.00	0.28
P SM5Z 200 A	ZFW	200	5.0	480	1850	0.5	152	10	23.6	5.00	0.26

(1) Pulse test : t<sub>p</sub> ≤ 50ms δ < 2%.

(2) Measured between 10% and 50% of I<sub>ZM</sub>.

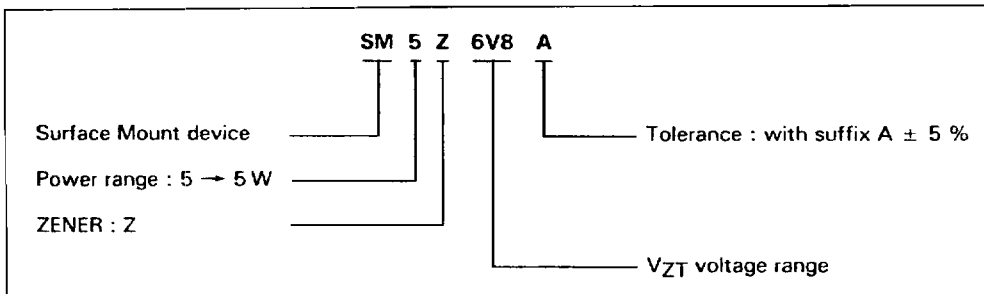
(3) Rectangular waveform (t<sub>p</sub> = 10ms).

Tolerance on nominal V<sub>ZT</sub> value : ± 5%.

Forward voltage drop : V<sub>F</sub> ≤ 1.2V (T<sub>amb</sub> = 25°C, I<sub>F</sub> = 1A).

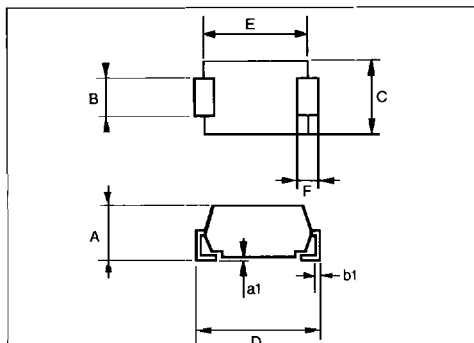
P : Preferred voltages.

ORDER CODE



PACKAGE MECHANICAL DATA

SOD 6 (plastic)



Ref.	Millimetres		Inches	
	Min.	Max.	Min.	Max.
A	2.50	3.10	0.098	0.122
a1	0.05	0.20	0.002	0.008
B	2.10	2.30	0.082	0.090
b1	0.29	0.32	0.011	0.012
C	3.80	4.20	0.149	0.165
D	6.00	6.40	0.236	0.252
E	4.70	5.00	0.185	0.196
F	0.90	1.30	0.035	0.051

Laser marking.  
The logo indicates cathode.

FOOT PRINT DIMENSIONS (millimeters)

