

REGULATOR DIODES

Diodes in hermetically sealed leadless SMID* glass envelopes.

They are intended for use as voltage regulator and transient suppressor diodes in medium power regulation and transient suppression circuits.

The series consists of BZD27-C7V5 to BZD27-C510 in the normalized E24 range.

QUICK REFERENCE DATA

			voltage regulator	transient suppressor
Working voltage range	VZ	nom.	7.5 to 270	V
Stand-off voltage	V _R			6.2 to 430 V
Total power dissipation	P _{tot}	max.	2.3	W
Non-repetitive peak reverse power dissipation T _j = 25 °C; t _p = 100 μs	PRSM	max.	300	W

MECHANICAL DATA

Dimensions in mm

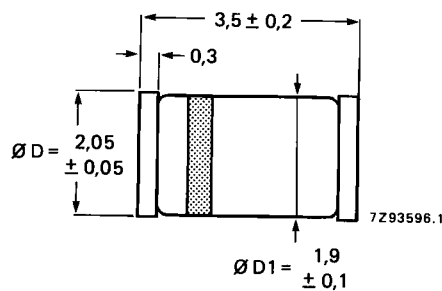


Fig. 1 SOD-87.

* Surface mounted implosion diode.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Total power dissipation

$T_{tp} = 105\text{ }^{\circ}\text{C}$

$T_{amb} = 55\text{ }^{\circ}\text{C}$; PCB mounting (Fig. 2)

P_{tot}	max.	2.3 W
P_{tot}	max.	0.8 W

Non-repetitive peak reverse power dissipation

$t_p = 100\text{ }\mu\text{s}$, square pulse;

$T_j = 25\text{ }^{\circ}\text{C}$ (prior to surge) waveforms

waveform 10/1000 exponential pulse (Fig. 3);

$T_j = 25\text{ }^{\circ}\text{C}$ (prior to surge)

P_{RSM}	max.	300 W
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P_{RSM}	max.	150 W
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Storage temperature

T_{stg}	-65 to +175	$^{\circ}\text{C}$
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Junction temperature

T_j	max.	175 $^{\circ}\text{C}$
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THERMAL RESISTANCE

Influence of mounting method

1. Thermal resistance from junction to tie-point
2. Thermal resistance from junction to ambient when mounted on a 1.5 mm thick epoxy glass PCB; Cu-thickness $\geq 40\text{ }\mu\text{m}$; Fig. 2.

R_{thj-tp}	=	30 K/W
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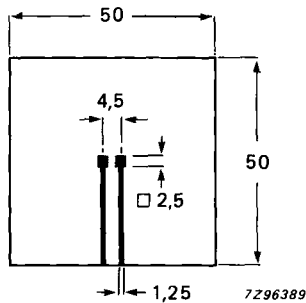


Fig. 2 Mounted on a printed-circuit board.

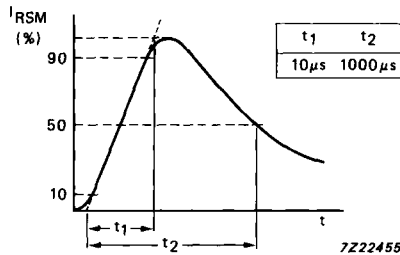


Fig. 3 Current pulse in accordance with IEC 60-2, Section 6.

CHARACTERISTICS

$T_j = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

Forward voltage

$I_F = 0.2\text{ A}$

V_F	<	1.2 V
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	temperature coefficient Sz		test current I _Z mA	reverse current	reverse voltage	working voltage V _Z			differential resistance	
	%/K			at		V			r _{diff}	Ω
	min.	max.		μA	V	min.	nom.	max.	typ.	max.
C7V5	0	0.07	100	50	3	7.0	7.5	7.9	1	2
C8V2	0.03	0.08	100	10	3	7.7	8.2	8.7	1	2
C9V1	0.03	0.08	50	10	5	8.5	9.1	9.6	2	4
C10	0.05	0.09	50	7	7.5	9.4	10.0	10.6	2	4
C11	0.05	0.10	50	3	8.2	10.4	11.0	11.6	4	7
C12	0.05	0.10	50	2	9.1	11.4	12.0	12.7	4	7
C13	0.05	0.10	50	2	10	12.4	13.0	14.1	5	10
C15	0.05	0.10	50	1	11	13.8	15.0	15.6	5	10
C16	0.06	0.11	25	1	12	15.3	16.0	17.1	6	15
C18	0.06	0.11	25	1	13	16.8	18.0	19.1	6	15
C20	0.06	0.11	25	1	15	18.8	20.0	21.2	6	15
C22	0.06	0.11	25	1	16	20.8	22.0	23.3	6	15
C24	0.06	0.11	25	1	18	22.8	24.0	25.6	7	15
C27	0.06	0.11	25	1	20	25.1	27.0	28.9	7	15
C30	0.06	0.11	25	1	22	28	30	32	8	15
C33	0.06	0.11	25	1	24	31	33	35	8	15
C36	0.06	0.11	10	1	27	34	36	38	21	40
C39	0.06	0.11	10	1	30	37	39	41	21	40
C43	0.07	0.12	10	1	33	40	43	46	24	45
C47	0.07	0.12	10	1	36	44	47	50	24	45
C51	0.07	0.12	10	1	39	48	51	54	25	60
C56	0.07	0.12	10	1	43	52	56	60	25	60
C62	0.08	0.13	10	1	47	58	62	66	25	80
C68	0.08	0.13	10	1	51	64	68	72	25	80
C75	0.08	0.13	10	1	56	70	75	79	30	100
C82	0.08	0.13	10	1	62	77	82	87	30	100
C91	0.09	0.13	5	1	68	85	91	96	60	200
C100	0.09	0.13	5	1	75	94	100	106	60	200
C110	0.09	0.13	5	1	82	104	110	116	80	250
C120	0.09	0.13	5	1	91	114	120	127	80	250
C130	0.09	0.13	5	1	100	124	130	141	110	300
C150	0.09	0.13	5	1	110	138	150	156	130	300
C160	0.09	0.13	5	1	120	153	160	171	150	350
C180	0.09	0.13	5	1	130	168	180	191	180	400
C200	0.09	0.13	5	1	150	188	200	212	200	500
C220	0.09	0.13	2	1	160	208	220	233	350	750
C240	0.09	0.13	2	1	180	228	240	256	400	850
C270	0.09	0.13	2	1	200	251	270	289	450	1000