

BZY91 SERIES

100 WATT ZENER DIODES

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Value	Unit
Voltage range	7.5 – 75	Volts
Peak pulse power	5000	Watt
Steady state power @ 25°C	100	Watt
Steady state power @ 65°C	75	Watt
Surge capability @ 1ms	5000	Watt
Operating temperature	-55 to +175	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Stud cathode part number	Stud anode part number	Zener voltage		Maximum test current	Typical zener resistance	Maximum reverse leakage	
		V _Z @ I _Z		I _Z	Z _Z @ I _Z	I _R @ V _R	
		Volts		Amps	Ohms	mA	Volts
		Min	Max				
BZY91C7V5	BZY91C7V5R	7.0	7.9	5.0	0.04	5.0	5.1
BZY91C8V2	BZY91C8V2R	7.7	8.7	5.0	0.06	5.0	5.6
BZY91C9V1	BZY91C9V1R	8.5	9.6	2.0	0.08	5.0	6.2
BZY91C10	BZY91C10R	9.4	10.6	2.0	0.08	1.0	6.8
BZY91C11	BZY91C11R	10.4	11.6	2.0	0.08	1.0	7.5
BZY91C12	BZY91C12R	11.4	12.7	2.0	0.10	1.0	8.2
BZY91C13	BZY91C13R	12.4	14.1	2.0	0.10	1.0	9.1
BZY91C15	BZY91C15R	13.8	15.6	2.0	0.12	1.0	10.0
BZY91C16	BZY91C16R	15.3	17.1	2.0	0.12	1.0	11.0
BZY91C18	BZY91C18R	16.8	19.1	2.0	0.14	1.0	12.0
BZY91C20	BZY91C20R	18.8	21.2	1.0	0.16	1.0	13.0
BZY91C22	BZY91C22R	20.8	23.3	1.0	0.16	1.0	15.0
BZY91C24	BZY91C24R	22.7	25.9	1.0	0.18	1.0	16.0
BZY91C27	BZY91C27R	25.1	28.9	1.0	0.20	1.0	18.0
BZY91C30	BZY91C30R	28.0	32.0	1.0	0.22	1.0	20.0
BZY91C33	BZY91C33R	31.0	35.0	1.0	0.24	1.0	22.0
BZY91C36	BZY91C36R	34.0	38.0	1.0	0.26	1.0	24.0
BZY91C39	BZY91C39R	37.0	41.0	0.5	0.28	1.0	27.0
BZY91C43	BZY91C43R	40.0	46.0	0.5	0.30	1.0	30.0
BZY91C47	BZY91C47R	44.0	50.0	0.5	0.34	1.0	33.0
BZY91C51	BZY91C51R	48.0	54.0	0.5	0.36	1.0	36.0
BZY91C56	BZY91C56R	52.0	60.0	0.5	0.40	1.0	39.0

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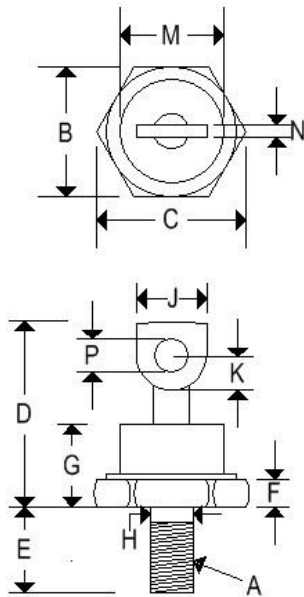
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Stud cathode part number	Stud anode part number	Zener voltage		Maximum test current	Typical zener resistance	Maximum reverse leakage	
		$V_z @ I_z$		I_z	$Z_z @ I_z$	$I_R @ V_R$	
		Volts		Amps	Ohms	mA	Volts
		Min	Max				
BZY91C62	BZY91C62R	58.0	66.0	0.5	0.44	1.0	43.0
BZY91C68	BZY91C68R	64.0	72.0	0.5	0.48	1.0	47.0
BZY91C75	BZY91C75R	70.0	79.0	0.5	0.51	1.0	51.0

- Forward voltage: $V_f = 1.5V$ max @ $I_f \leq 10A$ 300 μs square wave pulse
- V_z measured with pulse $\leq 100\mu s$ and duty cycle ≤ 0.001
- Z_z determined with DC plus 10% superimposed AC @ 1 KHz

MECHANICAL CHARACTERISTICS

Case	DO-5(R)
Marking	Alpha-numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)



	DO-5 (R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	1/4-28 UNF2A threads			
B	0.669	0.688	16.990	17.480
C	-	0.794	-	20.160
D	-	1.000	-	25.400
E	0.422	0.453	10.720	11.510
F	0.115	0.200	2.920	5.080
G	-	0.450	-	11.430
H	0.220	0.249	5.580	6.320
J	0.250	0.375	6.350	9.530
K	0.156	-	3.960	-
M	-	0.667	-	16.940
N	0.030	0.080	0.760	2.030
P	0.140	0.175	3.560	4.450

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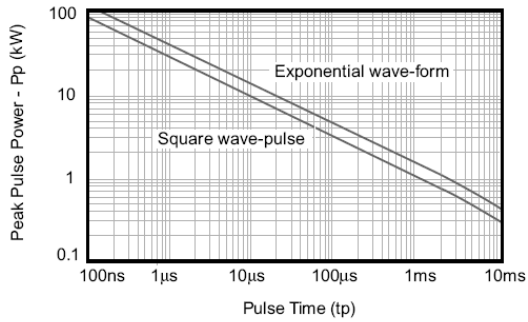


Figure 1. Non-repetitive peak pulse power rating curve

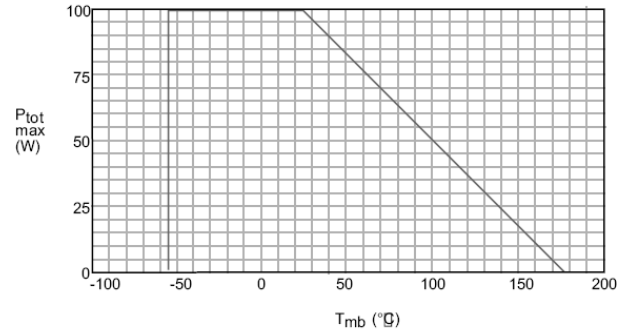


Figure 2. Maximum total dissipation plotted against mounting base temp