

1N4954US-1N4996US

5 WATT GLASS ZENER DIODES SURFACE MOUNT

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

Operating Temperature:	-65 to +175°C
Storage Temperature:	-65 to +175°C
Power Dissipation:	5 Watts @ $T_L = 65^\circ\text{C}$ at 3/8" from body, derate linearly to zero @ 175°C .
Thermal Resistance:	22°C/W junction to lead at 3/8" from body
Thermal Impedance @ 10ms:	1.8°C/W
Forward Voltage:	1.50 V @ 1.0A

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

Type	Electrical Specifications @ 25°C							Maximum Ratings		
	Nominal Zener Voltage V _Z @ I _{ZT}	Test Current I _{ZT}	Maximum Zener Impedance		Voltage Regulation ΔV _Z (note 1)	Maximum Reverse Leakage Current Voltage		Maximum Temperature Coeff. α _{V_Z} @ I _{ZT}	Maximum Continuous Current I _{ZM}	Surge Current I _{ZSM}
			Z _Z @ I _{ZT}	Z _{ZK} @ I _{ZK} 1mA		I _R	V _R			8.3ms square wave
	Volts	mA	OHMS	OHMS	Volts	μA	Volts	%/°C	mA	Amps
1N4954US	6.8	175	1.0	1000	0.7	150	5.2	.05	700	29.3
1N4955US	7.5	175	1.5	800	0.7	100	5.7	.06	630	26.4
1N4956US	8.2	150	1.5	600	0.7	50	6.2	.06	580	24.0
1N4957US	9.1	150	2.0	400	0.7	25	6.9	.06	520	22.0
1N4958US	10.0	125	2.0	125	0.8	25	7.6	.07	475	20.0
1N4959US	11.0	125	2.5	130	0.8	10	8.4	.07	430	19.0
1N4960US	12.0	100	2.5	140	0.8	10	9.1	.07	395	18.0
1N4961US	13.0	100	3.0	145	0.9	10	9.9	.08	365	16.0
1N4962US	15.0	75	3.5	150	1.0	5	11.4	.08	315	12.0
1N4963US	16.0	75	3.5	155	1.1	5	12.2	.08	294	10.0
1N4964US	18.0	65	4.0	160	1.2	5	13.7	.085	264	9.0
1N4965US	20.0	65	4.5	165	1.5	2	15.2	.085	237	8.0
1N4966US	22.0	50	5.0	170	1.8	2	16.7	.085	216	7.0
1N4967US	24.0	50	5.0	175	2.0	2	18.2	.090	198	6.5
1N4968US	27.0	50	6.0	180	2.0	2	20.6	.090	176	6.0
1N4969US	30.0	40	8	190	2.5	2	22.8	.090	158	5.5
1N4970US	33.0	40	10	200	2.8	2	25.1	.095	144	5.0
1N4971US	36.0	30	11	220	3.0	2	27.4	.095	132	4.5
1N4972US	39.0	30	14	230	3.0	2	29.7	.095	122	4.0
1N4973US	43.0	30	20	240	3.3	2	32.7	.095	110	3.5

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			Z _Z @ I _{ZT}	Z _{ZK} @ I _{ZK} 1mA		I _R	V _R			8.3ms square wave
	Volts	mA	OHMS	OHMS	Volts	μA	Volts	%/°C	mA	Amps
1N4974US	47.0	25	25	250	3.5	2	35.8	.095	100	3.2
1NUS75US	51.0	25	27	270	4.0	2	38.8	.095	92	3.0
1N4976US	56.0	20	35	320	4.4	2	42.6	.095	84	2.8
1N4977US	62.0	20	42	400	5.0	2	47.1	.100	76	2.5
1N4978US	68.0	20	50	500	5.5	2	51.7	.100	70	2.2
1N4979US	75.0	20	55	620	6.0	2	56.0	.100	63.0	2.0
1N4980US	82.0	15	80	720	6.6	2	62.2	.100	58.0	1.8
1N4981US	91.0	15	90	760	7.5	2	69.2	.100	52.5	1.6
1N4982US	100.0	12	110	800	8.0	2	76.0	.100	47.5	1.4
1N4983US	110.0	12	125	1000	9.0	2	83.6	.100	43.0	1.2
1N4984US	120.0	10	170	1150	10	2	91.2	.100	39.5	1.00
1N4985US	130.0	10	190	1250	11	2	98.8	.105	36.6	0.80
1N4986US	150.0	8	330	1500	13	2	114.0	.105	31.6	0.75
1N4987US	160.0	8	350	1650	14	2	121.6	.105	29.4	0.70
1N4988US	180.0	5	450	1750	16	2	136.8	.110	26.4	0.60
1N4989US	200.0	5	500	1850	18	2	152	.110	23.6	0.50
1N4990US	220.0	5	550	2000	19	2	167	.115	21.6	0.50
1N4991US	240.0	5	650	2050	22	2	182	.115	19.8	0.40
1N4992US	270.0	5	800	2100	25	2	206	.120	17.5	0.35
1N4993US	300.0	4	950	2150	28	2	228	.120	15.6	0.30
1N4994US	330.0	4	1175	2200	32	2	251	.120	14.4	0.25
1N4995US	360.0	3	1400	2300	35	2	274	.120	13.0	0.22
1N4996US	390.0	3	1800	2500	40	2	297	.120	12.0	0.20

Standard voltage tolerances are $\pm 5\%$ with no suffix, suffix C $\pm 2\%$ and D suffix is $\pm 1\%$.

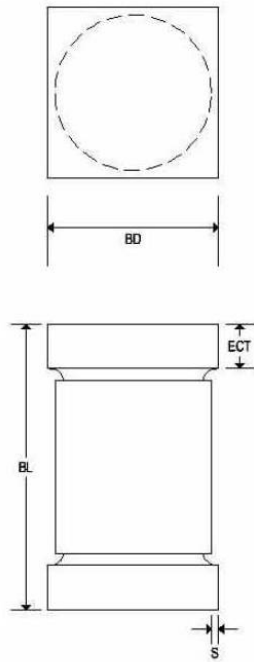
Note 1: Maximum voltage change ΔV_Z between 10% of I_{ZM} and 50% of I_{ZM} .

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MECHANICAL CHARACTERISTICS

Case:	DIGI F SM-SQ
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



	DIGI F SM-SQ			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.137	0.148	3.480	3.760
BL	0.200	0.225	5.080	5.720
ECT	0.019	0.028	0.480	0.710
S	0.003	-	0.080	-

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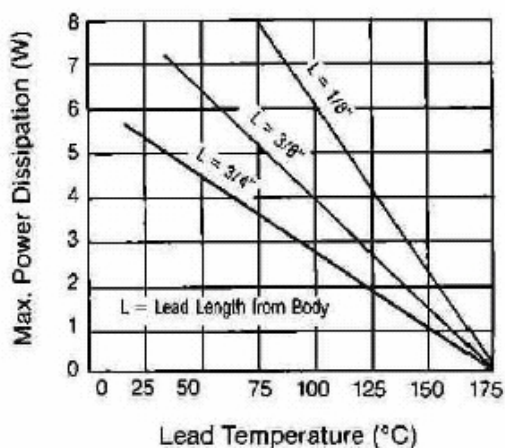


FIGURE 1
POWER DISSIPATION vs. LEAD
TEMPERATURE DERATING CURVE

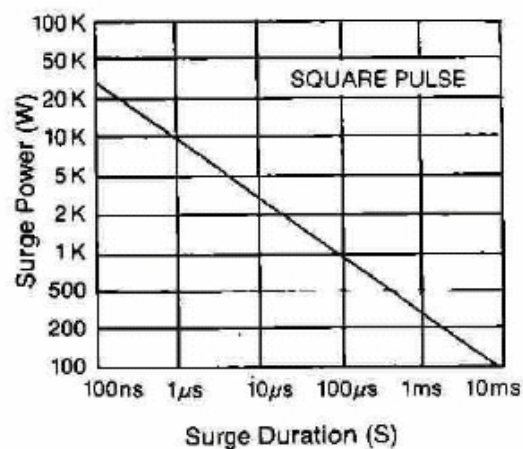


FIGURE 2
SURGE POWER vs.
SURGE DURATION

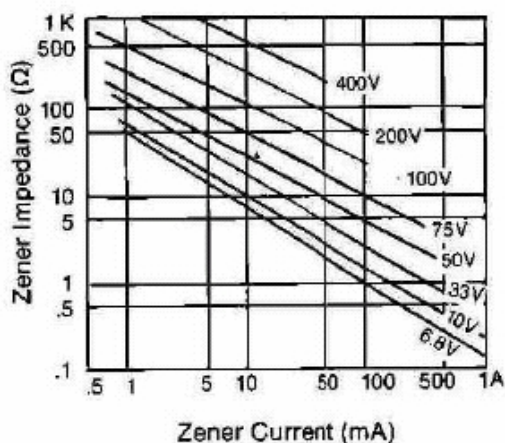


FIGURE 3
TYPICAL ZENER IMPEDANCE vs.
ZENER CURRENT