

GMZJ2.0~GMZJ56

SURFACE MOUNT ZENER DIODES

VOLTAGE 2.0 to 56 Volts **POWER** 500 mWatts

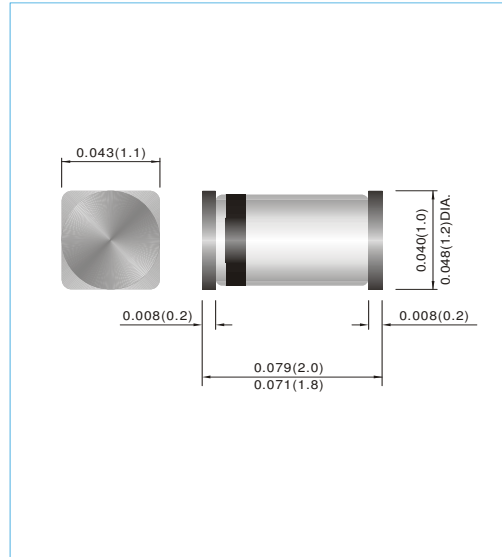
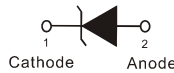
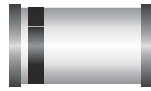
MICRO-MELF Unit : inch(mm)

FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Lead free in comply with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: Molded Glass MICRO-MELF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.01 grams.
- Mounting Position: Any
- Polarity : Color band denotes cathode end
- Packing information
T/R - 2.5K per 7" plastic Reel



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Power Dissipation at T _A = 25°C	P _{TOT}	500	mW
Operating Junction Temperature Range	T _J	175	°C
Storage Temperature Range	T _{STG}	-65 to + 175	°C

Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance Junction to Ambient Air	R _{θJA}	--	--	0.3	°C/mW
Forward Voltage at I _F = 100mA	V _F	--	--	1	V

Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

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Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	V _Z @ I _{ZT}			Z _{ZT} @ I _{ZT}		Z _{ZK} @ I _{ZK}		I _R @ V _R	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
500 mW Zener Diodes									
GMZJ 2.0A	2	1.88	2.1	100	5	1000	0.5	120	0.5
GMZJ 2.0B	2	2.02	2.2	100	5	1000	0.5	120	0.5
GMZJ 2.2A	2.2	2.12	2.3	100	5	1000	0.5	120	0.7
GMZJ 2.2B	2.2	2.22	2.41	100	5	1000	0.5	120	0.7
GMZJ 2.4A	2.4	2.33	2.52	100	5	1000	0.5	120	1
GMZJ 2.4B	2.4	2.43	2.63	100	5	1000	0.5	120	1
GMZJ 2.7A	2.7	2.54	2.75	110	5	1000	0.5	120	1
GMZJ 2.7B	2.7	2.69	2.91	110	5	1000	0.5	120	1
GMZJ 3.0A	3	2.85	3.07	120	5	1000	0.5	50	1
GMZJ 3.0B	3	3.01	3.22	120	5	1000	0.5	50	1
GMZJ 3.3A	3.3	3.16	3.38	120	5	1000	0.5	20	1
GMZJ 3.3B	3.3	3.32	3.53	120	5	1000	0.5	20	1
GMZJ 3.6A	3.6	3.46	3.69	100	5	1000	1	10	1
GMZJ 3.6B	3.6	3.6	3.84	100	5	1000	1	10	1
GMZJ 3.9A	3.9	3.74	4.01	100	5	1000	1	5	1
GMZJ 3.9B	3.9	3.89	4.16	100	5	1000	1	5	1
GMZJ 4.3A	4.3	4.04	4.29	100	5	1000	1	5	1
GMZJ 4.3B	4.3	4.17	4.43	100	5	1000	1	5	1
GMZJ 4.3C	4.3	4.3	4.57	100	5	1000	1	5	1
GMZJ 4.7A	4.7	4.44	4.68	90	5	900	1	5	1
GMZJ 4.7B	4.7	4.55	4.80	90	5	900	1	5	1
GMZJ 4.7C	4.7	4.68	4.93	90	5	900	1	5	1
GMZJ 5.1A	5.1	4.81	5.07	80	5	800	1	5	1.5
GMZJ 5.1B	5.1	4.94	5.2	80	5	800	1	5	1.5
GMZJ 5.1C	5.1	5.09	5.37	80	5	800	1	5	1.5
GMZJ 5.6A	5.6	5.28	5.55	60	5	500	1	5	2.5
GMZJ 5.6B	5.6	5.45	5.73	60	5	500	1	5	2.5
GMZJ 5.6C	5.6	5.61	5.91	60	5	500	1	5	2.5
GMZJ 6.2A	6.2	5.78	6.09	60	5	300	1	5	3
GMZJ 6.2B	6.2	5.96	6.27	60	5	300	1	5	3
GMZJ 6.2C	6.2	6.12	6.44	60	5	300	1	5	3
GMZJ 6.8A	6.8	6.29	6.63	20	5	150	0.5	2	3.5
GMZJ 6.8B	6.8	6.49	6.83	20	5	150	0.5	2	3.5
GMZJ 6.8C	6.8	6.66	7.01	20	5	150	0.5	2	3.5
GMZJ 7.5A	7.5	6.85	7.22	20	5	120	0.5	0.5	4
GMZJ 7.5B	7.5	7.07	7.45	20	5	120	0.5	0.5	4
GMZJ 7.5C	7.5	7.29	7.67	20	5	120	0.5	0.5	4
GMZJ 8.2A	8.2	7.53	7.92	20	5	120	0.5	0.5	5
GMZJ 8.2B	8.2	7.78	8.19	20	5	120	0.5	0.5	5
GMZJ 8.2C	8.2	8.03	8.45	20	5	120	0.5	0.5	5
GMZJ 9.1A	9.1	8.29	8.73	25	5	120	0.5	0.5	6
GMZJ 9.1B	9.1	8.57	9.01	25	5	120	0.5	0.5	6
GMZJ 9.1C	9.1	8.83	9.3	25	5	120	0.5	0.5	6
GMZJ 10A	10	9.12	9.59	30	5	120	0.5	0.2	7
GMZJ 10B	10	9.41	9.9	30	5	120	0.5	0.2	7
GMZJ 10C	10	9.7	10.2	30	5	120	0.5	0.2	7
GMZJ 10D	10	9.94	10.44	30	5	120	0.5	0.2	7
GMZJ 11A	11	10.18	10.71	30	5	120	0.5	0.2	8
GMZJ 11B	11	10.5	11.05	30	5	120	0.5	0.2	8
GMZJ 11C	11	10.82	11.38	30	5	120	0.5	0.2	8

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Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	V _Z @ I _{ZT}			Z _{ZT} @ I _{ZT}		Z _{ZK} @ I _{ZK}		I _R @ V _R	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
500 mW Zener Diodes									
GMZJ 12A	12	11.13	11.71	30	5	110	0.5	0.2	9
GMZJ 12B	12	11.44	12.03	30	5	110	0.5	0.2	9
GMZJ 12C	12	11.74	12.35	30	5	110	0.5	0.2	9
GMZJ 13A	13	12.11	12.75	35	5	110	0.5	0.2	10
GMZJ 13B	13	12.55	13.21	35	5	110	0.5	0.2	10
GMZJ 13C	13	12.99	13.66	35	5	110	0.5	0.2	10
GMZJ 15A	15	13.44	14.13	40	5	110	0.5	0.2	11
GMZJ 15B	15	13.89	14.62	40	5	110	0.5	0.2	11
GMZJ 15C	15	14.35	15.09	40	5	110	0.5	0.2	11
GMZJ 16A	16	14.8	15.57	40	5	150	0.5	0.2	12
GMZJ 16B	16	15.25	16.04	40	5	150	0.5	0.2	12
GMZJ 16C	16	15.69	16.51	40	5	150	0.5	0.2	12
GMZJ 18A	18	16.22	17.06	45	5	150	0.5	0.2	13
GMZJ 18B	18	16.82	17.7	45	5	150	0.5	0.2	13
GMZJ 18C	18	17.42	18.33	45	5	150	0.5	0.2	13
GMZJ 20A	20	18.02	18.96	55	5	200	0.5	0.2	15
GMZJ 20B	20	18.63	19.59	55	5	200	0.5	0.2	15
GMZJ 20C	20	19.23	20.22	55	5	200	0.5	0.2	15
GMZJ 20D	20	19.72	20.72	55	5	200	0.5	0.2	15
GMZJ 22A	22	20.15	21.2	30	5	200	0.5	0.2	17
GMZJ 22B	22	20.64	21.71	30	5	200	0.5	0.2	17
GMZJ 22C	22	21.08	22.17	30	5	200	0.5	0.2	17
GMZJ 22D	22	21.52	22.63	30	5	200	0.5	0.2	17
GMZJ 24A	24	22.05	23.18	35	5	200	0.5	0.2	19
GMZJ 24B	24	22.61	23.77	35	5	200	0.5	0.2	19
GMZJ 24C	24	23.12	24.31	35	5	200	0.5	0.2	19
GMZJ 24D	24	23.63	24.85	35	5	200	0.5	0.2	19
GMZJ 27A	27	24.26	25.52	45	5	250	0.5	0.2	21
GMZJ 27B	27	24.97	26.26	45	5	250	0.5	0.2	21
GMZJ 27C	27	25.63	26.95	45	5	250	0.5	0.2	21
GMZJ 27D	27	26.29	27.64	45	5	250	0.5	0.2	21
GMZJ 30A	30	26.99	28.39	55	5	250	0.5	0.2	23
GMZJ 30B	30	27.7	29.13	55	5	250	0.5	0.2	23
GMZJ 30C	30	28.36	29.82	55	5	250	0.5	0.2	23
GMZJ 30D	30	29.02	30.51	55	5	250	0.5	0.2	23
GMZJ 33A	33	29.68	31.22	65	5	250	0.5	0.2	25
GMZJ 33B	33	30.32	31.88	65	5	250	0.5	0.2	25
GMZJ 33C	33	30.9	32.5	65	5	250	0.5	0.2	25
GMZJ 33D	33	31.49	33.11	65	5	250	0.5	0.2	25
GMZJ 36A	36	32.14	33.79	75	5	250	0.5	0.2	27
GMZJ 36B	36	32.79	34.49	75	5	250	0.5	0.2	27
GMZJ 36C	36	33.4	35.13	75	5	250	0.5	0.2	27
GMZJ 36D	36	34.01	35.77	75	5	250	0.5	0.2	27
GMZJ 39A	39	34.68	36.47	85	5	250	0.5	0.2	30
GMZJ 39B	39	35.36	37.19	85	5	250	0.5	0.2	30
GMZJ 39C	39	36	37.85	85	5	250	0.5	0.2	30
GMZJ 39D	39	36.63	38.52	85	5	250	0.5	0.2	30
GMZJ 43	43	40	45	90	5	-	-	0.2	33
GMZJ 47	47	44	49	90	5	-	-	0.2	36
GMZJ 51	51	48	54	110	5	-	-	0.2	39
GMZJ 56	56	53	60	110	5	-	-	0.2	43

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

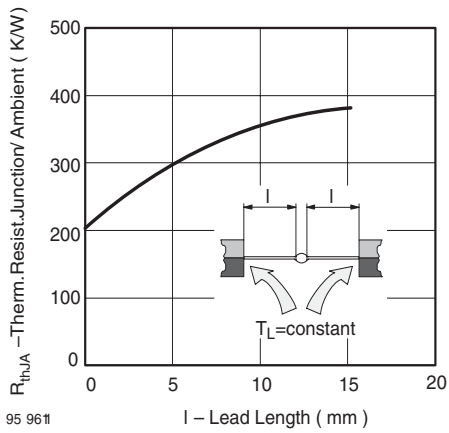


Fig. 1 Thermal Resistance vs. Lead Length

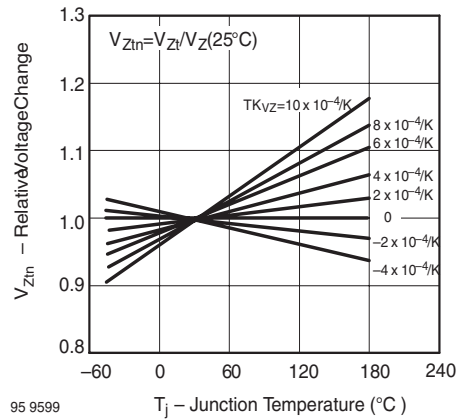


Fig. 4 Typical Change of Working Voltage vs. Junction Temperature

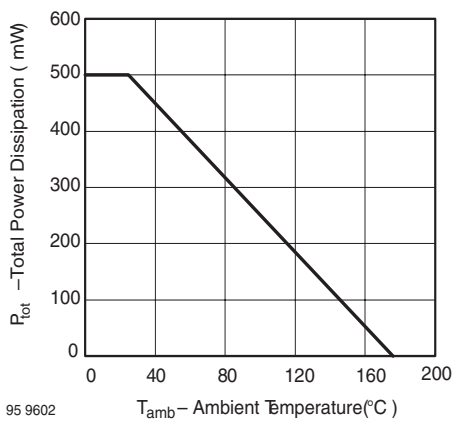


Fig. 2 Total Power Dissipation vs. Ambient Temperature

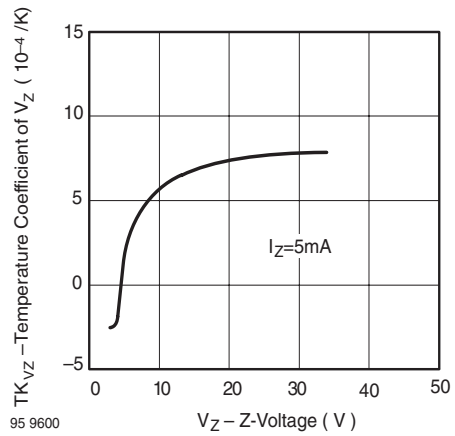


Fig. 5 Temperature Coefficient of V_Z vs. Z-Voltage

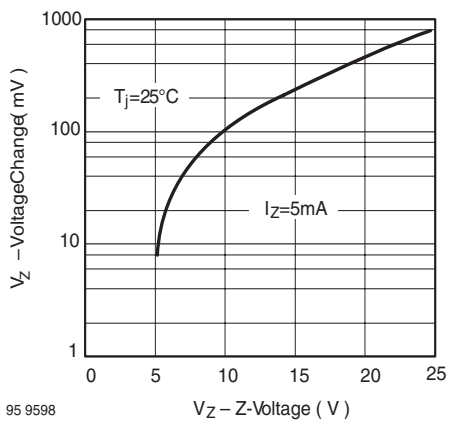


Fig. 3 Typical Change of Working Voltage under Operating Conditions at $T_{amb}=25\text{ }^{\circ}\text{C}$

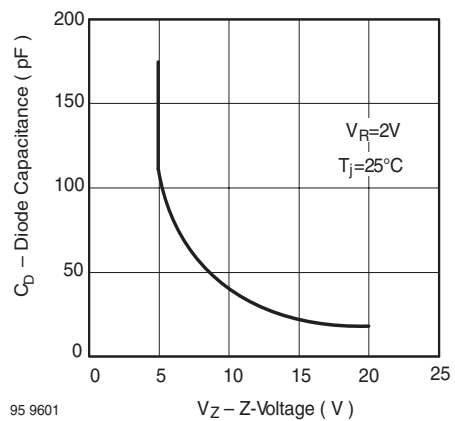


Fig. 6 Diode Capacitance vs. Z-Voltage

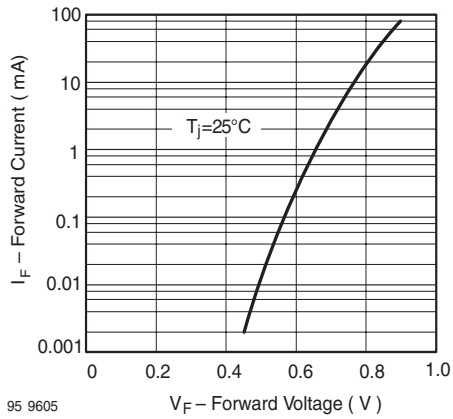


Fig. 7 Forward Current vs. Forward Voltage

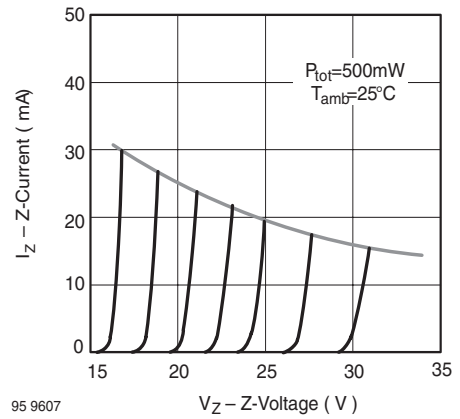


Fig. 9 Z-Current vs. Z-Voltage

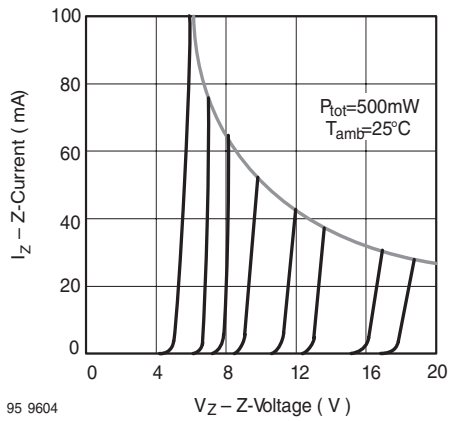


Fig. 8 Z-Current vs. Z-Voltage

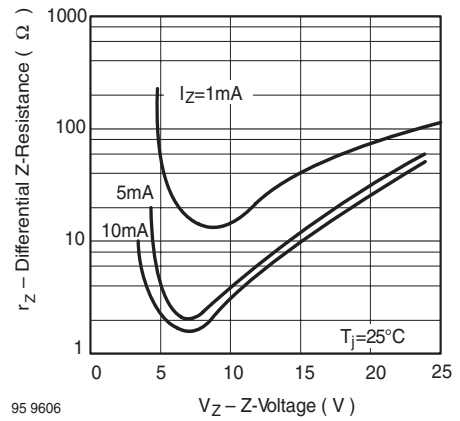


Fig. 10 Differential Z-Resistance vs. Z-Voltage

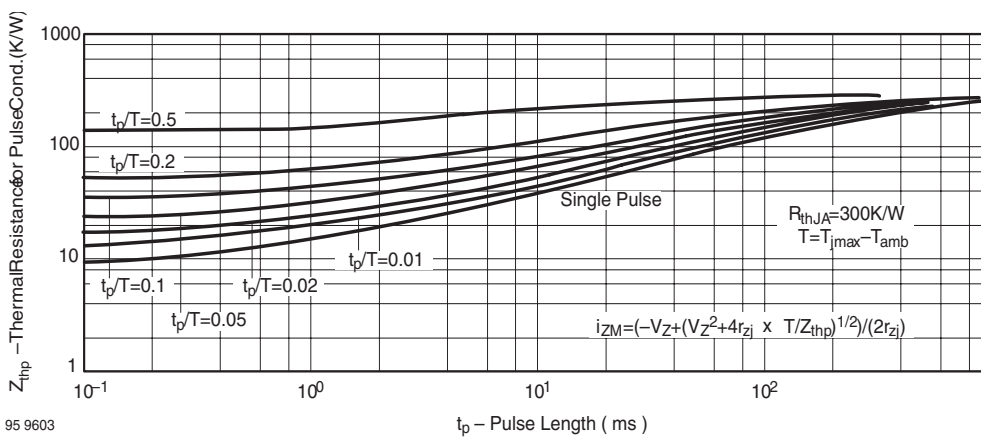
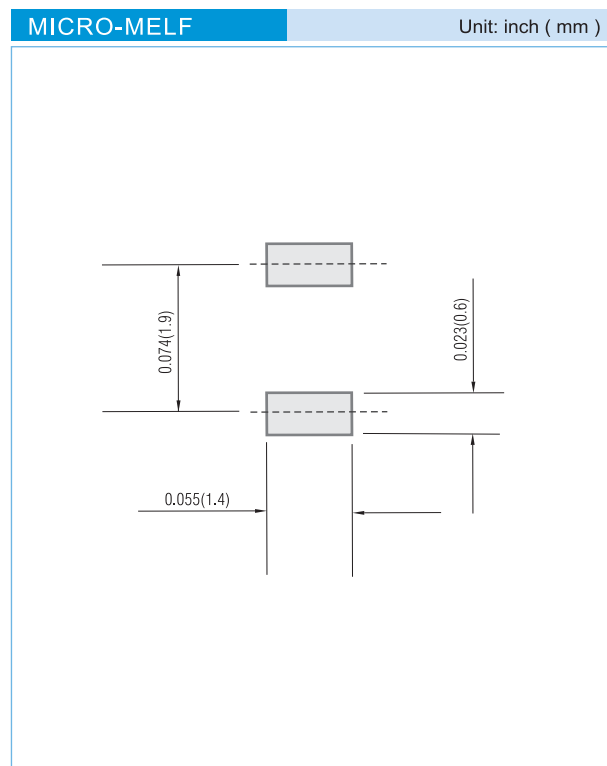


Fig. 11 Thermal Response

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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information

T/R - 10K per 13" plastic Reel

T/R - 2.5K per 7" plastic Reel

LEGAL STATEMENT

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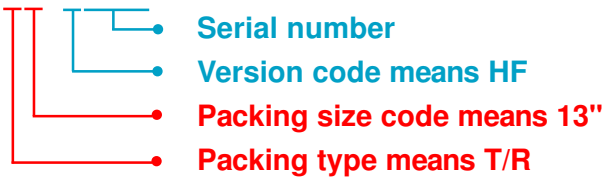
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For example :

RB500V-40_R2_00001

Part No.



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
T/B	A	N/A	0	HF	0	serial number
T/R	R	7"	1	RoHS	1	serial number
B/P	B	13"	2			
T/P	T	26mm	X			
TRR	S	52mm	Y			
TRL	L	PBCU	U			
FORMING	F	PBCD	D			

Part No_packing code_Version

GMZJ2.0A_R1_10001

GMZJ2.0A_R2_10001