

## 0.5W SMD Zener Diodes

### Features

- Planar Die Construction
- 0.5W Power Dissipation
- Zener Voltage: 2.0V to 56V
- Ideally Suited for Automated Assembly Processes
- RoHS Compliant



Micro-Melf



### Mechanical Data

<b>Case:</b>	Molded Glass Micro-Melf
<b>Terminals:</b>	Solderable per MIL-STD-750, Method 2026
<b>Polarity:</b>	Color band denotes cathode end
<b>Weight:</b>	Approx. 0.01 grams

### Maximum Ratings *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	Value	Unit	Conditions
<b>P<sub>tot</sub></b>	Power Dissipation at T <sub>a</sub> =25°C	500	mW	
<b>V<sub>F</sub></b>	Forward Voltage	1	V	I <sub>F</sub> =100mA
<b>R<sub>thJA</sub></b>	Thermal Resistance Junction to Ambient Air	0.3	°C/mW	
<b>T<sub>J</sub></b>	Junction Temperature	175	°C	
<b>T<sub>STG</sub></b>	Storage Temperature Range	-65 to +175	°C	

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

# 0.5W SMD Zener Diodes

## TMZJ2.0A-TMZJ56

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

0.5W	Normal Zener Voltage @ IZT			Test Current	Max. Zener Impedance ( $\Omega$ )			Maximum Reverse Leakage Current IR @ VR	
	Nom.	Min.	Max.		ZZT @IZT	Zzk @Izk	Izk(mA)	IR( $\mu$ A)	VR(V)
P/N	Vz(V)	Vz(V)	Vz(V)	IZT(mA)	ZZT @IZT	Zzk @Izk	Izk(mA)	IR( $\mu$ A)	VR(V)
TMZJ2.0A	2.0	1.88	2.10	5	100	1000	0.5	120	0.5
TMZJ2.0B		2.02	2.20						
TMZJ2.2A	2.2	2.12	2.30	5	100	1000	0.5	120	0.7
TMZJ2.2B		2.22	2.41						
TMZJ2.4A	2.4	2.33	2.52	5	100	1000	0.5	120	1.0
TMZJ2.4B		2.43	2.63						
TMZJ2.7A	2.7	2.54	2.75	5	110	1000	0.5	100	1.0
TMZJ2.7B		2.69	2.91						
TMZJ3.0A	3.0	2.85	3.07	5	120	1000	0.5	50	1.0
TMZJ3.0B		3.01	3.22						
TMZJ3.3A	3.3	3.16	3.38	5	120	1000	0.5	20	1.0
TMZJ3.3B		3.32	3.53						
TMZJ3.6A	3.6	3.46	3.69	5	100	1000	1.0	10	1.0
TMZJ3.6B		3.60	3.84						
TMZJ3.9A	3.9	3.74	4.01	5	100	1000	1.0	5	1.0
TMZJ3.9B		3.89	4.16						
TMZJ4.3A	4.3	4.04	4.29	5	100	1000	1.0	5	1.0
TMZJ4.3B		4.17	4.43						
TMZJ4.3C		4.30	4.57						
TMZJ4.7A	4.7	4.44	4.68	5	90	900	1.0	5	1.0
TMZJ4.7B		4.55	4.80						
TMZJ4.7C		4.68	4.93						
TMZJ5.1A	5.1	4.81	5.07	5	80	800	1.0	5	1.5
TMZJ5.1B		4.94	5.20						
TMZJ5.1C		5.09	5.37						
TMZJ5.6A	5.6	5.28	5.55	5	60	500	1.0	5	2.5
TMZJ5.6B		5.45	5.73						
TMZJ5.6C		5.61	5.91						
TMZJ6.2A	6.2	5.78	6.09	5	60	300	1.0	5	3.0
TMZJ6.2B		5.96	6.27						
TMZJ6.2C		6.12	6.44						

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0.5W	Normal Zener Voltage @ IZT			Test Current	Max. Zener Impedance (Ω)			Maximum Reverse Leakage Current IR @ VR	
	Nom.	Min.	Max.		ZZT @IZT	Zzk @Izk	Izk(mA)	IR(μA)	VR(V)
P/N	Vz(V)	Vz(V)	Vz(V)	IZT(mA)					
TMZJ6.8A	6.8	6.29	6.63	5	20	150	0.5	2	3.5
TMZJ6.8B		6.49	6.83						
TMZJ6.8C		6.66	7.01						
TMZJ7.5A	7.5	6.85	7.22	5	20	120	0.5	0.5	4.0
TMZJ7.5B		7.07	7.45						
TMZJ7.5C		7.29	7.67						
TMZJ8.2A	8.2	7.53	7.92	5	20	120	0.5	0.5	5.0
TMZJ8.2B		7.78	8.19						
TMZJ8.2C		8.03	8.45						
TMZJ9.1A	9.1	8.29	8.73	5	25	120	0.5	0.5	6.0
TMZJ9.1B		8.57	9.01						
TMZJ9.1C		8.83	9.30						
TMZJ10A	10	9.12	9.59	5	30	120	0.5	0.2	7.0
TMZJ10B		9.41	9.90						
TMZJ10C		9.70	10.20						
TMZJ10D		9.94	10.44						
TMZJ11A	11	10.18	10.71	5	30	120	0.5	0.2	8.0
TMZJ11B		10.50	11.05						
TMZJ11C		10.82	11.38						
TMZJ12A	12	11.13	11.71	5	30	110	0.5	0.2	9.0
TMZJ12B		11.44	12.03						
TMZJ12C		11.74	12.35						
TMZJ13A	13	12.11	12.75	5	35	110	0.5	0.2	10
TMZJ13B		12.55	13.21						
TMZJ13C		12.99	13.66						
TMZJ15A	15	13.44	14.13	5	40	110	0.5	0.2	11
TMZJ15B		13.89	14.62						
TMZJ15C		14.35	15.09						
TMZJ16A	16	14.80	15.57	5	40	150	0.5	0.2	12
TMZJ16B		15.25	16.04						
TMZJ16C		15.69	16.51						
TMZJ18A	18	16.22	17.06	5	45	150	0.5	0.2	13
TMZJ18B		16.82	17.70						
TMZJ18C		17.42	18.33						

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0.5W	Normal Zener Voltage @ IZT			Test Current	Max. Zener Impedance ( $\Omega$ )			Maximum Reverse Leakage Current IR @ VR	
	Nom.	Min.	Max.		ZZT @IZT	Zzk @Izk	Izk(mA)	IR( $\mu$ A)	VR(V)
P/N	Vz(V)	Vz(V)	Vz(V)	IZT(mA)					
TMZJ20A	20	18.02	18.96	5	55	200	0.5	0.2	15
TMZJ20B		18.63	19.59						
TMZJ20C		19.23	20.22						
TMZJ20D		19.72	20.72						
TMZJ22A	22	20.15	21.20	5	30	200	0.5	0.2	17
TMZJ22B		20.64	21.71						
TMZJ22C		21.08	22.17						
TMZJ22D		21.52	22.63						
TMZJ24A	24	22.05	23.18	5	35	200	0.5	0.2	19
TMZJ24B		22.61	23.77						
TMZJ24C		23.12	24.31						
TMZJ24D		23.63	24.85						
TMZJ27A	27	24.26	25.52	5	45	250	0.5	0.2	21
TMZJ27B		24.97	26.26						
TMZJ27C		25.63	26.95						
TMZJ27D		26.29	27.64						
TMZJ30A	30	26.99	28.39	5	55	250	0.5	0.2	23
TMZJ30B		27.70	29.13						
TMZJ30C		28.36	29.82						
TMZJ30D		29.02	30.51						
TMZJ33A	33	29.68	31.22	5	65	250	0.5	0.2	25
TMZJ33B		30.32	31.88						
TMZJ33C		30.90	32.50						
TMZJ33D		31.49	33.11						
TMZJ36A	36	32.14	33.79	5	75	250	0.5	0.2	27
TMZJ36B		32.79	34.49						
TMZJ36C		33.40	35.13						
TMZJ36D		34.01	35.77						
TMZJ39A	39	34.68	36.47	5	85	250	0.5	0.2	30
TMZJ39B		35.36	37.19						
TMZJ39C		36.00	37.85						
TMZJ39D		36.63	38.52						
TMZJ43	43	40.00	45.00	5	90			0.2	33
TMZJ47	47	44.00	49.00	5	90			0.2	36
TMZJ51	51	48.00	54.00	5	110			0.2	39
TMZJ56	56	53.00	60.00	5	110			0.2	43

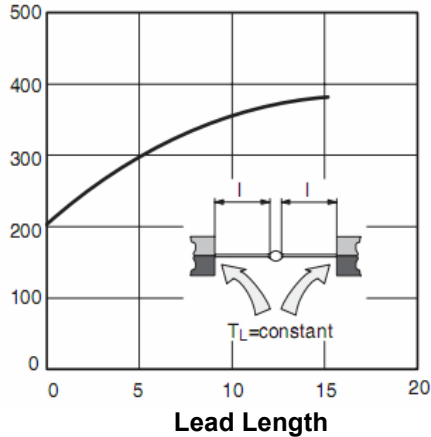
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### Typical Characteristics Curves ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

RthJA Thermal Resistance Junction/  
Ambient (K/W)

Fig.1 Thermal Resistance VS Lead Length



PTOT Total Power Dissipation (mW)

Fig.2 Total Power Dissipation VS Ambient Temperature

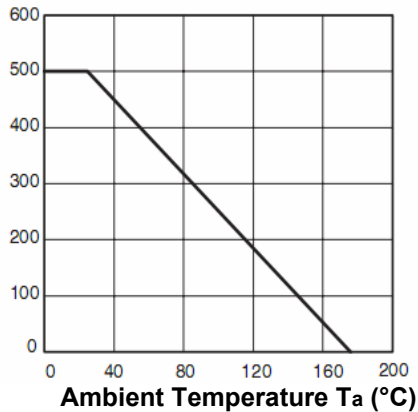


Fig.3 Typical Change of Working Voltage under Operating Condition at  $T_a=25^{\circ}C$

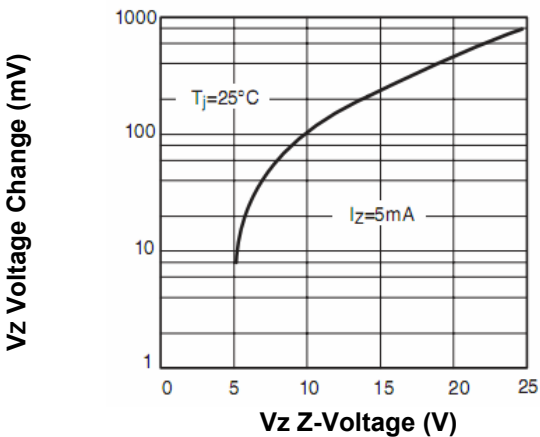


Fig.4 Typical Change of Working Voltage VS Junction Temperature

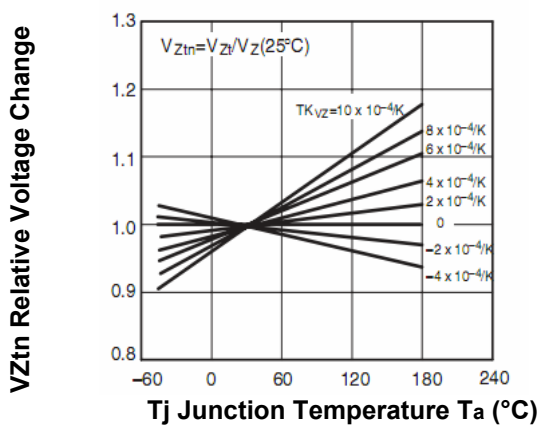


Fig.5 Temperature Coefficient of Vz VS Z-Voltage

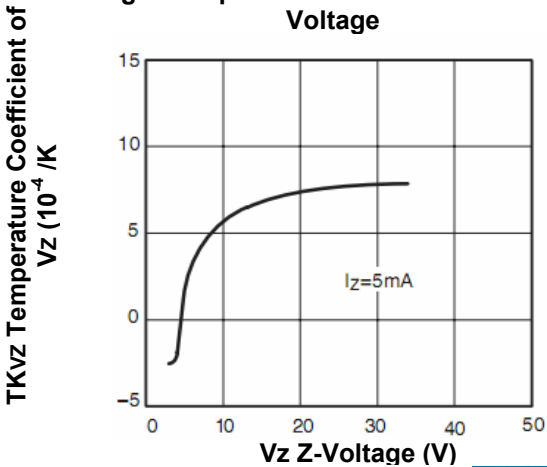
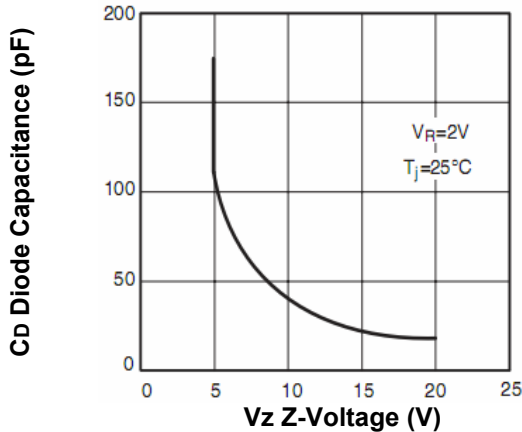


Fig.6 Diode Capacitance VS Z-Voltage



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Fig.7 Forward Current VS Forward Voltage

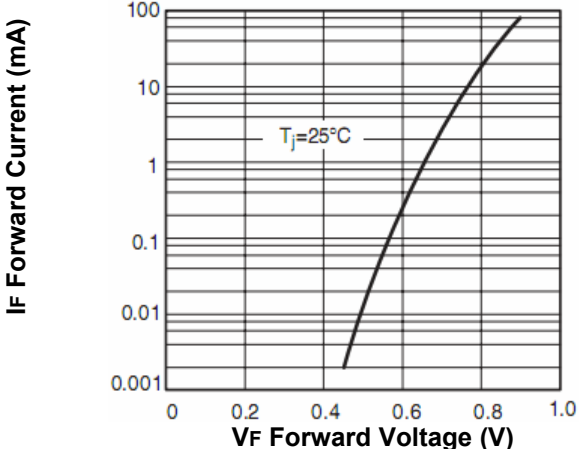


Fig.8 Z-Current VS Z-Voltage

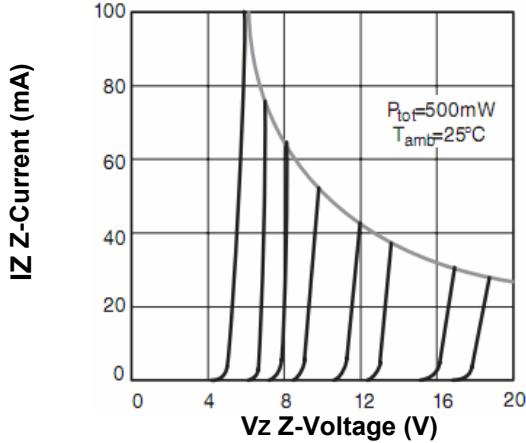


Fig.9 Z-Current VS Z-Voltage

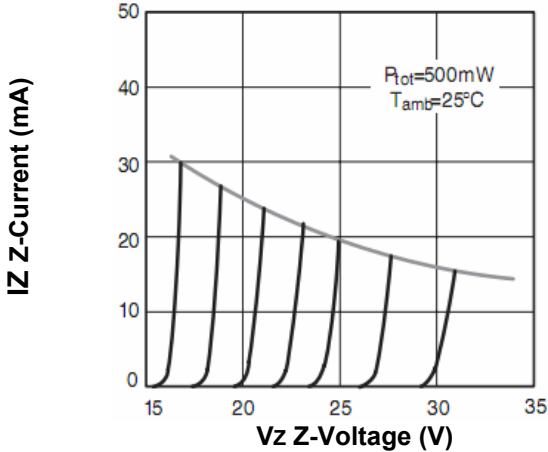


Fig.10 Differential Z-Resistance VS Z-Voltage

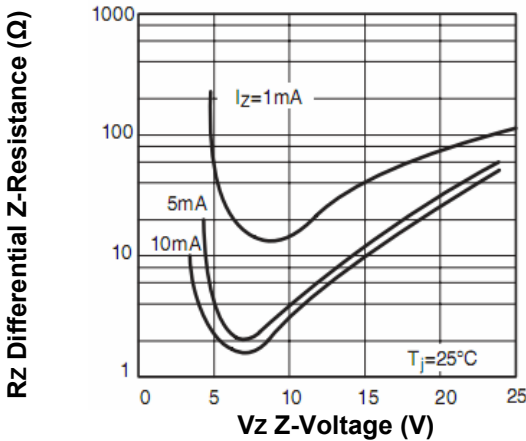
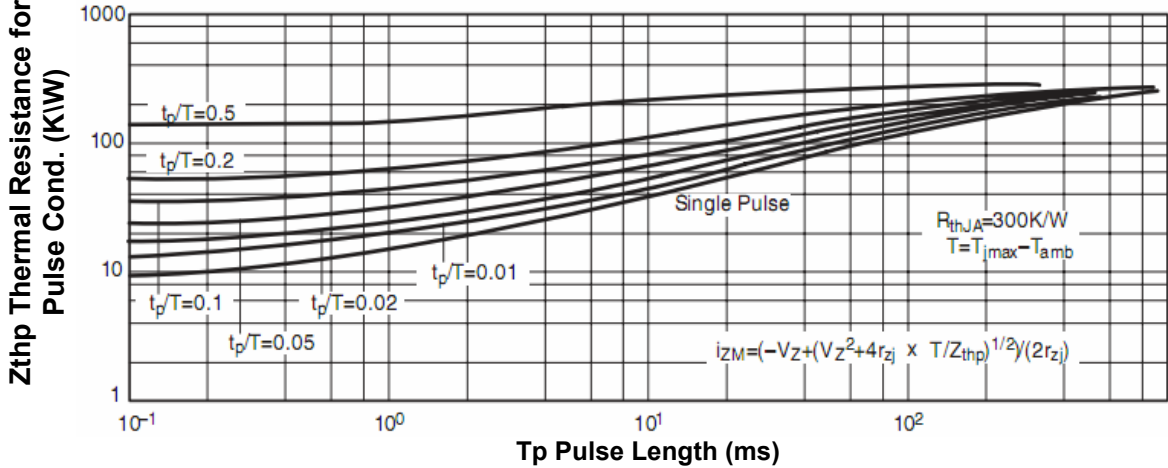


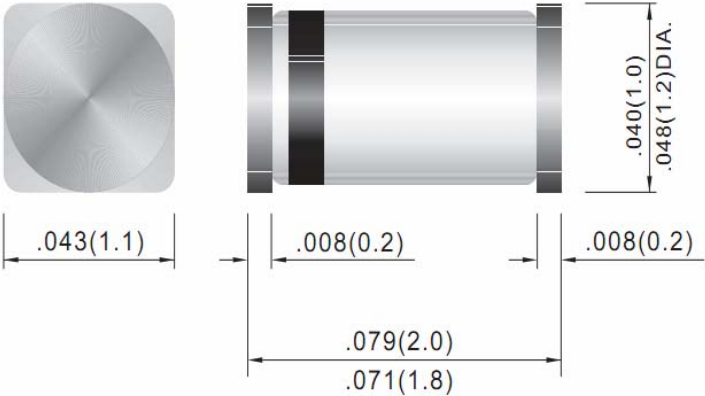
Fig.11 Thermal Response



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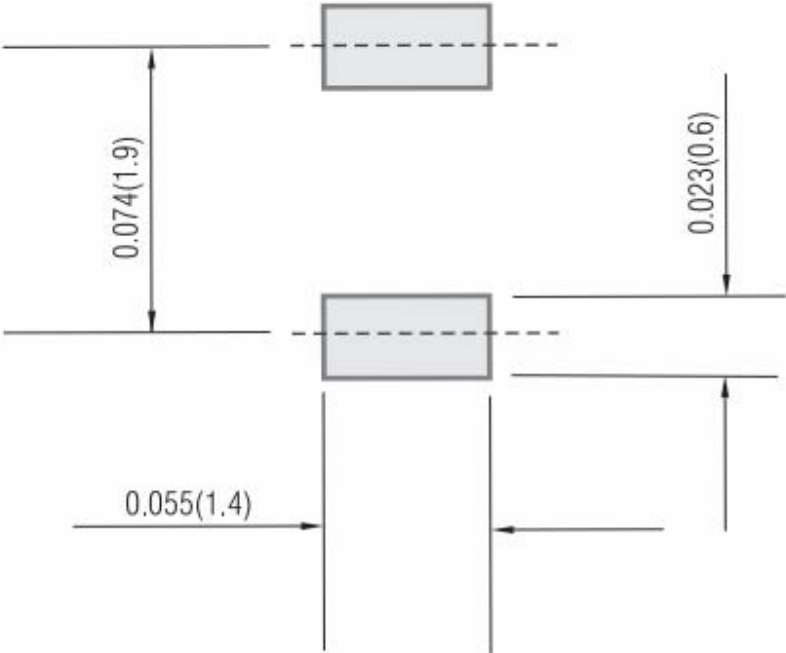
## TMZJ2.0A-TMZJ56

### Dimensions in inch (mm)



**Micro-Melf**

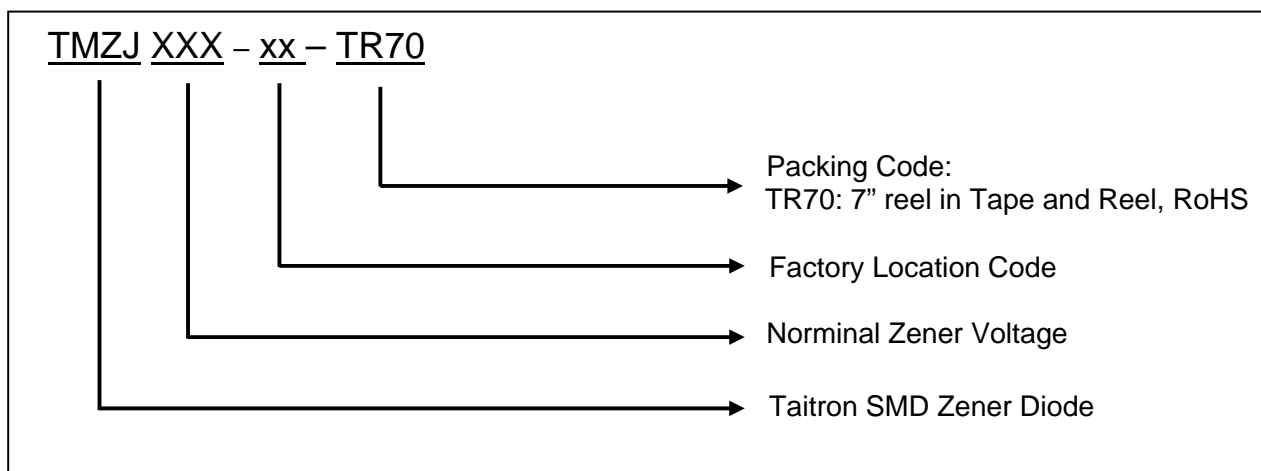
### Mounting Pad Layout in inch (mm)



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### Ordering Information



### How to contact us

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