

DATA SHEET

ZMM55-C2V4 SERIES

SURFACE MOUNT ZENER DIODES

VOLTAGE 2.4 to 47 Volts

POWER 500 mWatts

MINI-MELF/LL-34

Unit : inch (mm)

FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Both normal and Pb free product are available :

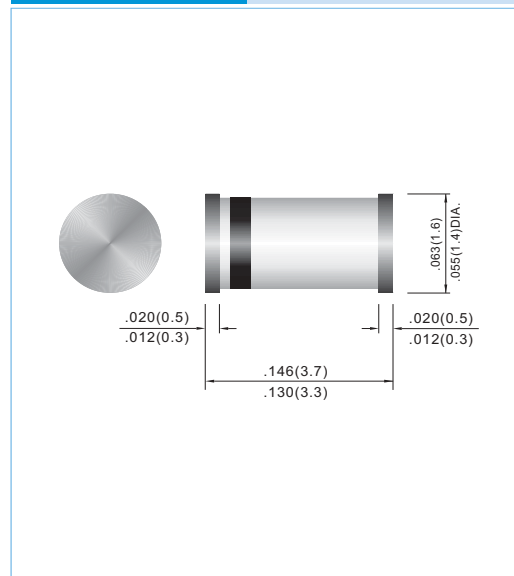
Normal : 80~95% Sn, 5~20% Pb

Pb free: 98.5% Sn above

MECHANICAL DATA

- Case: Molded Glass MINI-MELF
- Terminals: Solderable per MIL-STD-202E, Method 208
- Polarity: See Diagram Below
- Approx. Weight: 0.03 grams
- Mounting Position: Any
- Packing information

T/R - 2.5K per 7" plastic Reel



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Power Dissipation at Tamb = 25 °C	P _{TO T}	500	mW
Junction Temperature	T _J	175	°C
Storage Temperature Range	T _S	-55 to +175	°C

Valid provided that leads at a distance of 8mm from case are kept at ambient temperature.

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

Valid provided that leads at a distance of 8mm from case are kept at ambient temperature.

Part Number	Nom inal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking code
	V _Z @ I _T			Z _{zT} @ I _T		Z _{zK} @ I _K		I _R @ V _R		
	Nom . V	Min . V	Max . V	Ω	m A	Ω	m A	uA	V	
ZMM 55-C 2V4	2.4	2.28	2.56	85	5	600	1.0	50	1.0	C 2V4
ZMM 55-C 2V7	2.7	2.5	2.9	85	5	600	1.0	10	1.0	C 2V7
ZMM 55-C 3V0	3.0	2.8	3.2	85	5	600	1.0	4	1.0	C 3V0
ZMM 55-C 3V3	3.3	3.1	3.5	85	5	600	1.0	2	1.0	C 3V3
ZMM 55-C 3V6	3.6	3.4	3.8	85	5	600	1.0	2	1.0	C 3V6
ZMM 55-C 3V9	3.9	3.7	4.1	85	5	600	1.0	2	1.0	C 3V9
ZMM 55-C 4V3	4.3	4.0	4.6	75	5	600	1.0	1	1.0	C 4V3
ZMM 55-C 4V7	4.7	4.4	5.0	60	5	600	1.0	0.5	1.0	C 4V7
ZMM 55-C 5V1	5.1	4.8	5.4	35	5	550	1.0	0.1	1.0	C 5V1
ZMM 55-C 5V6	5.6	5.2	6.0	25	5	450	1.0	0.1	1.0	C 5V6
ZMM 55-C 6V2	6.2	5.8	6.6	10	5	200	1.0	0.1	2.0	C 6V2
ZMM 55-C 6V8	6.8	6.4	7.2	8	5	150	1.0	0.1	3.0	C 6V8
ZMM 55-C 7V5	7.5	7.0	7.9	7	5	50	1.0	0.1	5.0	C 7V5
ZMM 55-C 8V2	8.2	7.7	8.7	7	5	50	1.0	0.1	6.0	C 8V2
ZMM 55-C 9V1	9.1	8.5	9.6	10	5	50	1.0	0.1	7.0	C 9V1
ZMM 55-C 10	10	9.4	10.6	15	5	70	1.0	0.1	7.5	C 10V
ZMM 55-C 11	11	10.4	11.6	20	5	70	1.0	0.1	8.5	C 11V
ZMM 55-C 12	12	11.4	12.7	20	5	90	1.0	0.1	9.0	C 12V
ZMM 55-C 13	13	12.4	14.1	26	5	110	1.0	0.1	10	C 13V
ZMM 55-C 15	15	13.8	15.6	30	5	110	1.0	0.1	11	C 15V
ZMM 55-C 16	16	15.3	17.1	40	5	170	1.0	0.1	12	C 16V
ZMM 55-C 18	18	16.8	19.1	50	5	170	1.0	0.1	14	C 18V
ZMM 55-C 20	20	18.8	21.2	55	5	220	1.0	0.1	15	C 20V
ZMM 55-C 22	22	20.8	23.3	55	5	220	1.0	0.1	17	C 22V
ZMM 55-C 24	24	22.8	25.6	80	5	220	1.0	0.1	18	C 24V
ZMM 55-C 27	27	25.1	28.9	80	5	220	1.0	0.1	20	C 27V
ZMM 55-C 30	30	28	32	80	5	220	1.0	0.1	22	C 30V
ZMM 55-C 33	33	31	35	80	5	220	1.0	0.1	24	C 33V
ZMM 55-C 36	36	34	38	80	5	220	1.0	0.1	27	C 36V
ZMM 55-C 39	39	37	41	90	2.5	500	1.0	0.1	30	C 39V
ZMM 55-C 43	43	40	46	90	2.5	600	1.0	0.1	33	C 43V
ZMM 55-C 47	47	44	50	110	2.5	700	1.0	0.1	36	C 47V

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

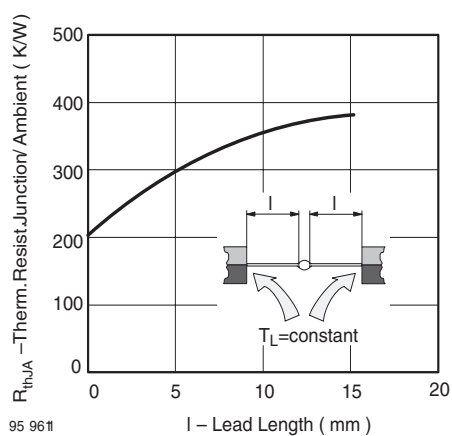


Fig. 1 Thermal Resistance vs. Lead Length

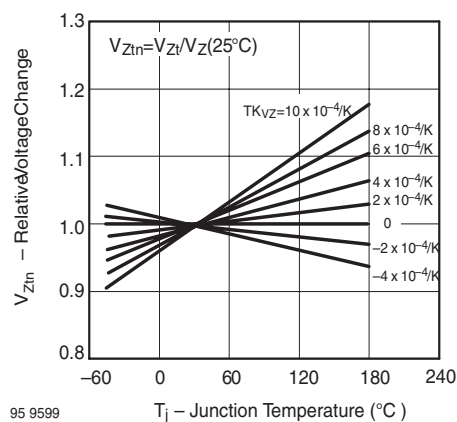


Fig. 4 Typical Change of Working Voltage vs. Junction Temperature

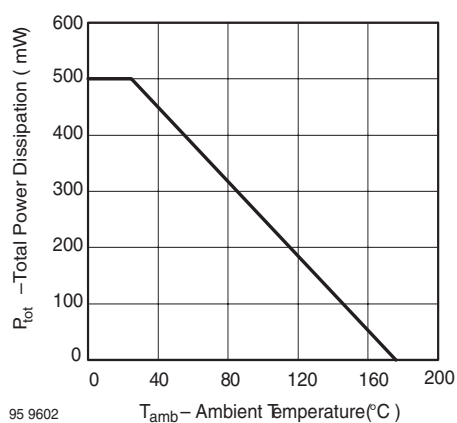


Fig. 2 Total Power Dissipation vs. Ambient Temperature

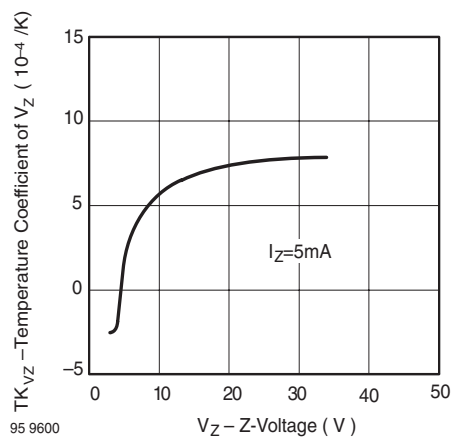


Fig. 5 Temperature Coefficient of V_Z vs. Z-Voltage

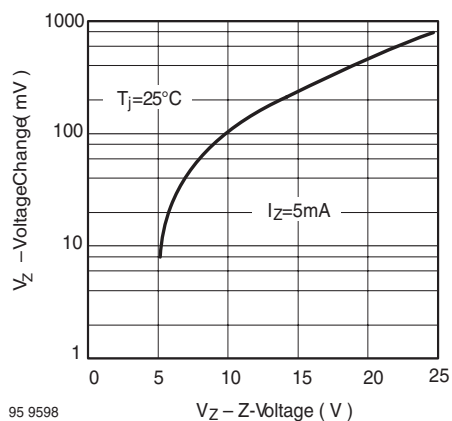


Fig. 3 Typical Change of Working Voltage under Operating Conditions at $T_{amb} = 25^\circ\text{C}$

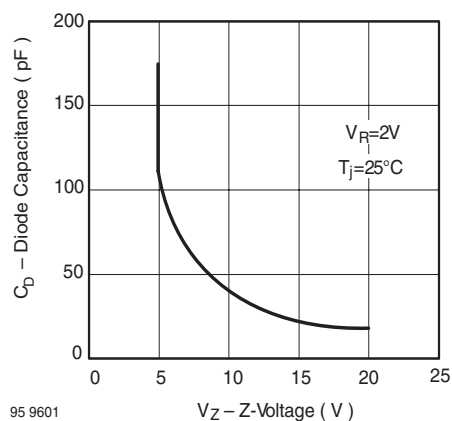


Fig. 6 Diode Capacitance vs. Z-Voltage

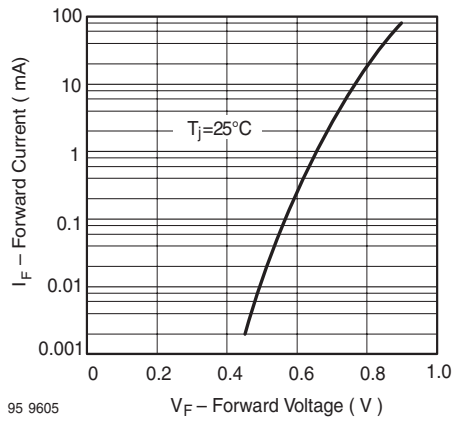


Fig. 7 Forward Current vs. Forward Voltage

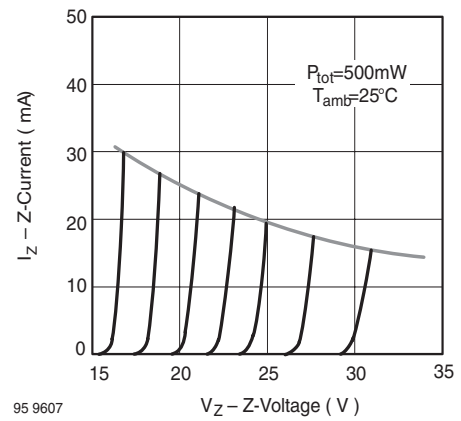


Fig. 9 Z-Current vs. Z-Voltage

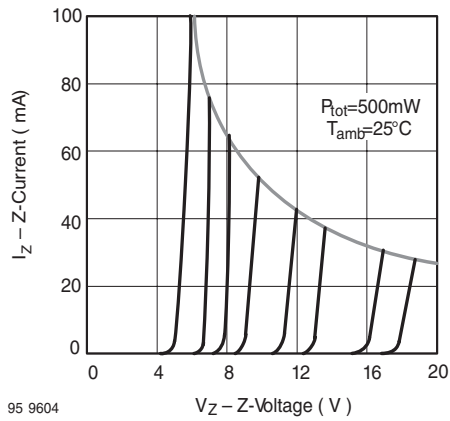


Fig. 8 Z-Current vs. Z-Voltage

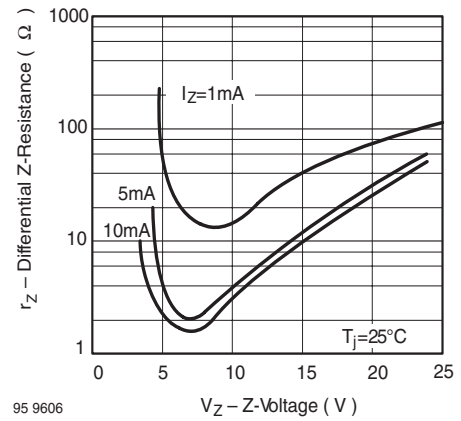


Fig. 10 Differential Z-Resistance vs. Z-Voltage

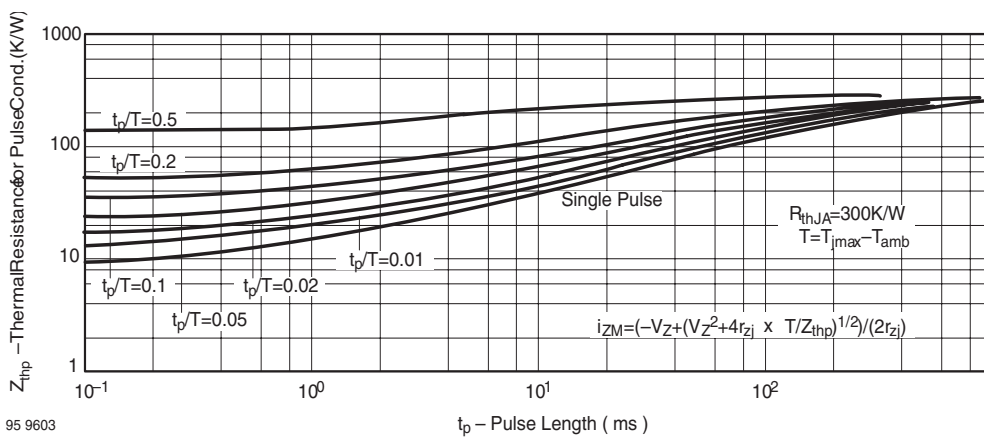


Fig. 11 Thermal Response