

# DATA SHEET

## ZMM55-C2V4 SERIES

### SURFACE MOUNT ZENER DIODES

**VOLTAGE** 2.4 to 100Volts

**POWER** 500 mWatts

**MINI-MELF/LL-34**

Unit : inch (mm)

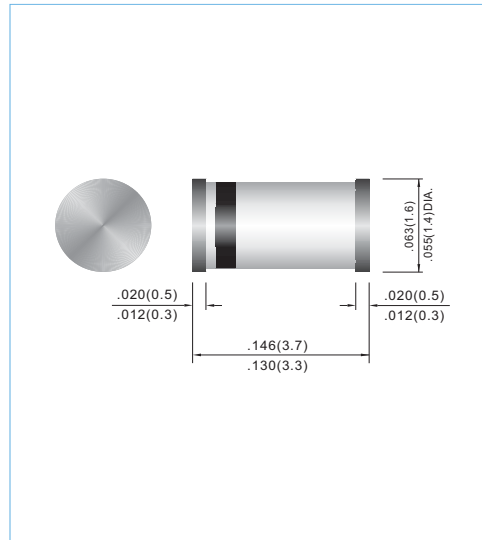
#### FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- In compliance with EU RoHS 2002/95/EC directives

#### MECHANICAL DATA

- Case: Molded Glass MINI-MELF
- Terminals: Solderable per MIL-STD-750, Method 2026
- 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 <sub>TOT</sub>	500	mW
Junction Temperature	T <sub>J</sub>	175	°C
Storage Temperature Range	T <sub>S</sub>	-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 <sub>θJA</sub>	--	--	0.3	K/mW
Forward Voltage at I <sub>F</sub> = 100mA	V <sub>F</sub>	--	--	1	V

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

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking code	Temperature Coefficient of Zener Voltage		
	Vz @ IzT			Zzt @ IzT		Zzk @ Izk		Ir @ Vr			TKvz %/K	Min	Max
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	uA	V				
ZMM55-C2V4	2.4	2.28	2.56	85	5	600	1.0	50	1.0	C2V4	-0.09	-0.06	
ZMM55-C2V7	2.7	2.5	2.9	85	5	600	1.0	10	1.0	C2V7	-0.09	-0.06	
ZMM55-C3V0	3.0	2.8	3.2	85	5	600	1.0	4	1.0	C3V0	-0.08	-0.05	
ZMM55-C3V3	3.3	3.1	3.5	85	5	600	1.0	2	1.0	C3V3	-0.08	-0.05	
ZMM55-C3V6	3.6	3.4	3.8	85	5	600	1.0	2	1.0	C3V6	-0.08	-0.05	
ZMM55-C3V9	3.9	3.7	4.1	85	5	600	1.0	2	1.0	C3V9	-0.08	-0.05	
ZMM55-C4V3	4.3	4.0	4.6	75	5	600	1.0	1	1.0	C4V3	-0.06	-0.03	
ZMM55-C4V7	4.7	4.4	5.0	60	5	600	1.0	0.5	1.0	C4V7	-0.05	0.02	
ZMM55-C5V1	5.1	4.8	5.4	35	5	550	1.0	0.1	1.0	C5V1	-0.02	0.02	
ZMM55-C5V6	5.6	5.2	6.0	25	5	450	1.0	0.1	1.0	C5V6	-0.05	0.05	
ZMM55-C6V2	6.2	5.8	6.6	10	5	200	1.0	0.1	2.0	C6V2	0.03	0.06	
ZMM55-C6V8	6.8	6.4	7.2	8	5	150	1.0	0.1	3.0	C6V8	0.03	0.07	
ZMM55-C7V5	7.5	7.0	7.9	7	5	50	1.0	0.1	5.0	C7V5	0.03	0.07	
ZMM55-C8V2	8.2	7.7	8.7	7	5	50	1.0	0.1	6.0	C8V2	0.03	0.08	
ZMM55-C9V1	9.1	8.5	9.6	10	5	50	1.0	0.1	7.0	C9V1	0.03	0.09	
ZMM55-C10	10	9.4	10.6	15	5	70	1.0	0.1	7.5	C10V	0.03	0.1	
ZMM55-C11	11	10.4	11.6	20	5	70	1.0	0.1	8.5	C11V	0.03	0.11	
ZMM55-C12	12	11.4	12.7	20	5	90	1.0	0.1	9.0	C12V	0.03	0.11	
ZMM55-C13	13	12.4	14.1	26	5	110	1.0	0.1	10	C13V	0.03	0.11	
ZMM55-C15	15	13.8	15.6	30	5	110	1.0	0.1	11	C15V	0.03	0.11	
ZMM55-C16	16	15.3	17.1	40	5	170	1.0	0.1	12	C16V	0.03	0.11	
ZMM55-C18	18	16.8	19.1	50	5	170	1.0	0.1	14	C18V	0.03	0.11	
ZMM55-C20	20	18.8	21.2	55	5	220	1.0	0.1	15	C20V	0.03	0.11	
ZMM55-C22	22	20.8	23.3	55	5	220	1.0	0.1	17	C22V	0.03	0.11	
ZMM55-C24	24	22.8	25.6	80	5	220	1.0	0.1	18	C24V	0.04	0.12	
ZMM55-C27	27	25.1	28.9	80	5	220	1.0	0.1	20	C27V	0.04	0.12	
ZMM55-C30	30	28	32	80	5	220	1.0	0.1	22	C30V	0.04	0.12	
ZMM55-C33	33	31	35	80	5	220	1.0	0.1	24	C33V	0.04	0.12	
ZMM55-C36	36	34	38	80	5	220	1.0	0.1	27	C36V	0.04	0.12	
ZMM55-C39	39	37	41	90	2.5	500	1.0	0.1	30	C39V	0.04	0.12	
ZMM55-C43	43	40	46	90	2.5	600	1.0	0.1	33	C43V	0.04	0.12	
ZMM55-C47	47	44	50	110	2.5	700	1.0	0.1	36	C47V	0.04	0.12	
ZMM55-C51	51	48	54	125	2.5	700	0.5	0.1	39	C51V	0.04	0.12	
ZMM55-C56	56	52	60	135	2.5	1000	0.5	0.1	43	C56V	0.04	0.12	
ZMM55-C62	62	58	66	150	2.5	1000	0.5	0.1	47	C62V	0.04	0.12	
ZMM55-C68	68	64	72	200	2.5	1000	0.5	0.1	51	C68V	0.04	0.12	
ZMM55-C75	75	70	79	250	2.5	1500	0.5	0.1	56	C75V	-	-	
ZMM55-C82	82	77	87	300	2.5	2000	0.5	0.1	62	C82V	-	-	
ZMM55-C91	91	85	96	450	1.0	5000	0.1	0.1	68	C91V	-	-	
ZMM55-C100	100	94	106	450	1.0	5000	0.1	0.1	75	C100V	-	-	

**Notes.**

STANDARD VOLTAGE TOLERANCE IS ± 5% AND :

- SUFFIX " A" FOR ± 1%
- SUFFIX " B" FOR ± 2%
- SUFFIX " C" FOR ± 5%
- SUFFIX " D" FOR ± 20%

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

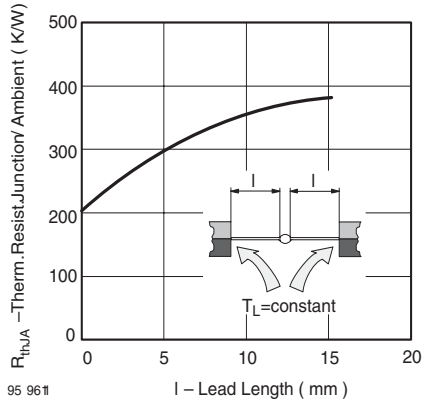


Fig. 1 Thermal Resistance vs. Lead Length

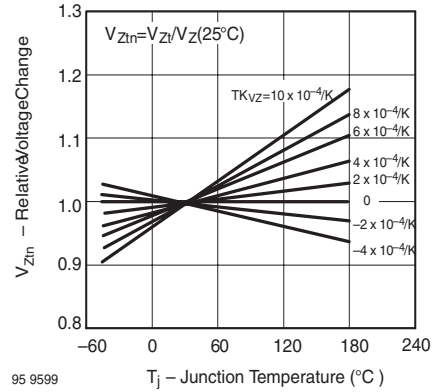


Fig. 4 Typical Change of Working Voltage vs. Junction Temperature

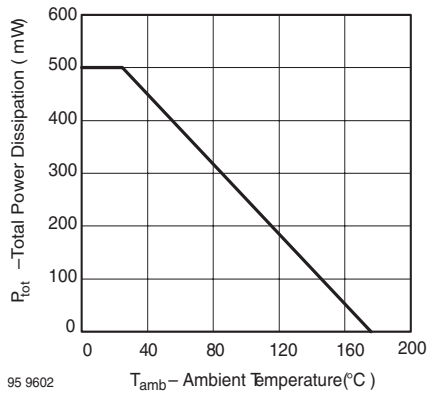


Fig. 2 Total Power Dissipation vs. Ambient Temperature

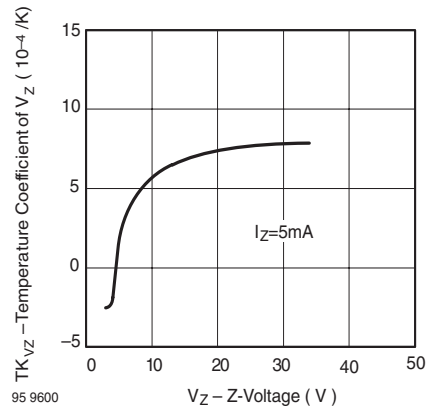


Fig. 5 Temperature Coefficient of Vz vs. Z-Voltage

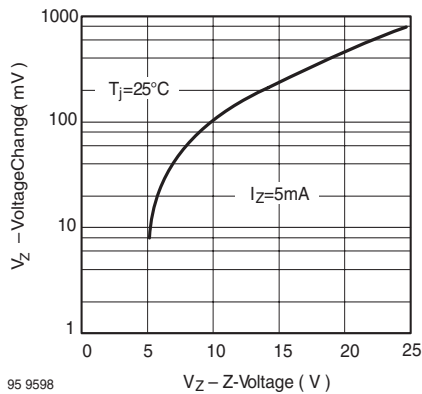


Fig. 3 Typical Change of Working Voltage under Operating Conditions at  $T_{amb}=25\text{ }^{\circ}\text{C}$

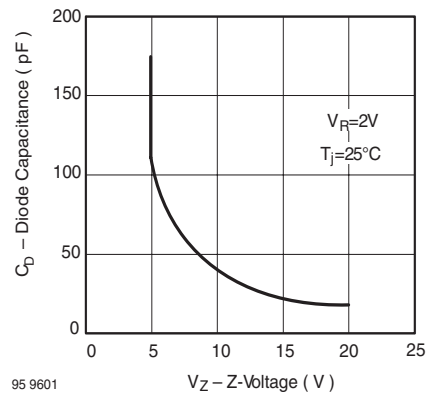


Fig. 6 Diode Capacitance vs. Z-Voltage

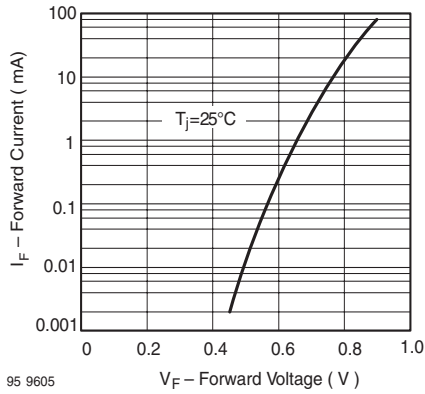


Fig. 7 Forward Current vs. Forward Voltage

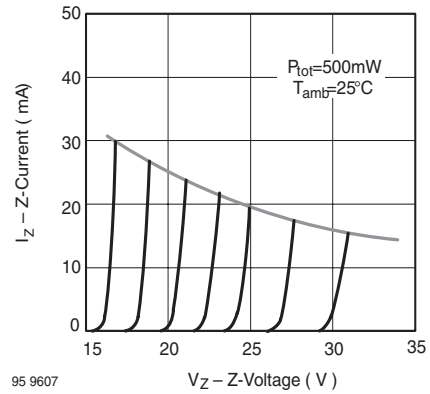


Fig. 9 Z-Current vs. Z-Voltage

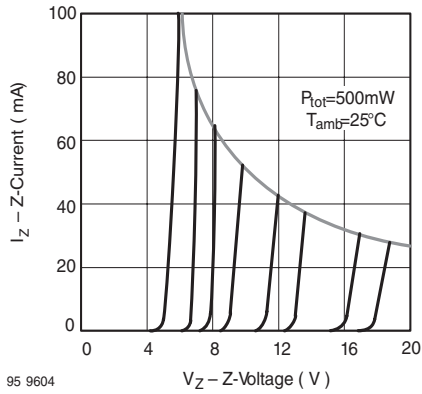


Fig. 8 Z-Current vs. Z-Voltage

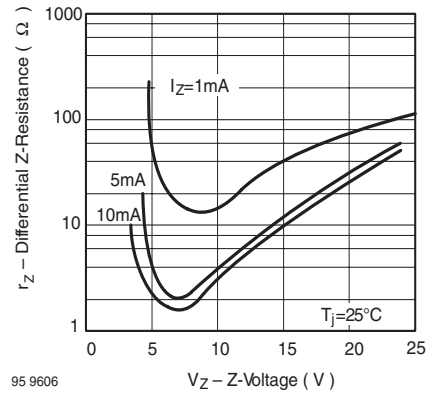


Fig. 10 Differential Z-Resistance vs. Z-Voltage

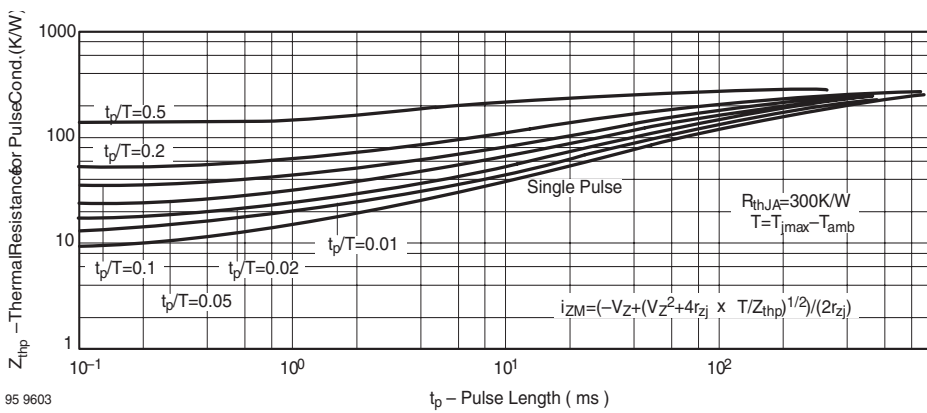
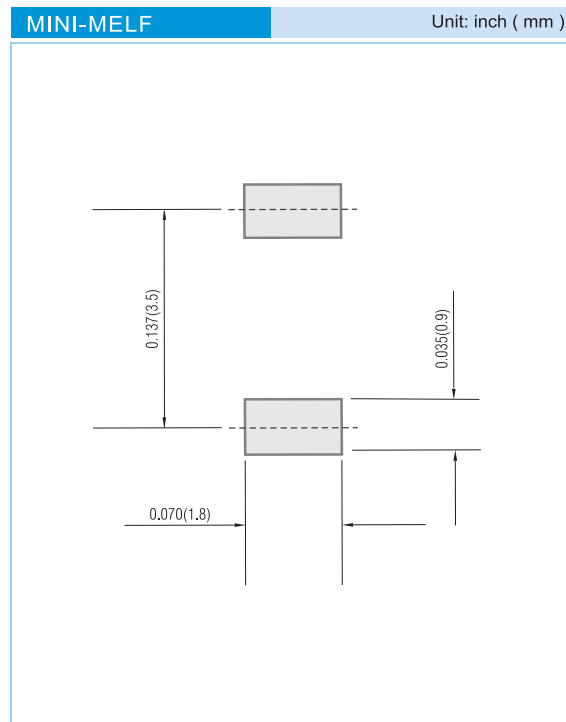


Fig. 11 Thermal Response

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## MOUNTING PAD LAYOUT

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## ORDER INFORMATION

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- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 2.5K per 7" plastic Reel

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## LEGAL STATEMENT

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