

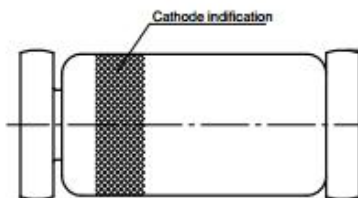


Features

- Planar Die Construction
- Sealed Glass Case
- Ideally Suited for Automated Insertion
- 2.4V - 75V Nominal Zener Voltages

Mechanical Data

- Case: MiniMELF, Glass
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Approx. Weight: 0.05 grams



Absolute Maximum Ratings ($T_a = 25^{\circ}\text{C} \pm 0^{\circ}\text{C}$)

	Symbol	Value	Unit
Power Dissipation	P_{tot}	500 1)	mW
Junction Temperature	T_j	175	$^{\circ}\text{C}$
Storage Temperature Range	T_S	-55 to +175	$^{\circ}\text{C}$
1) Valid provided that electrodes are kept at ambient temperature			

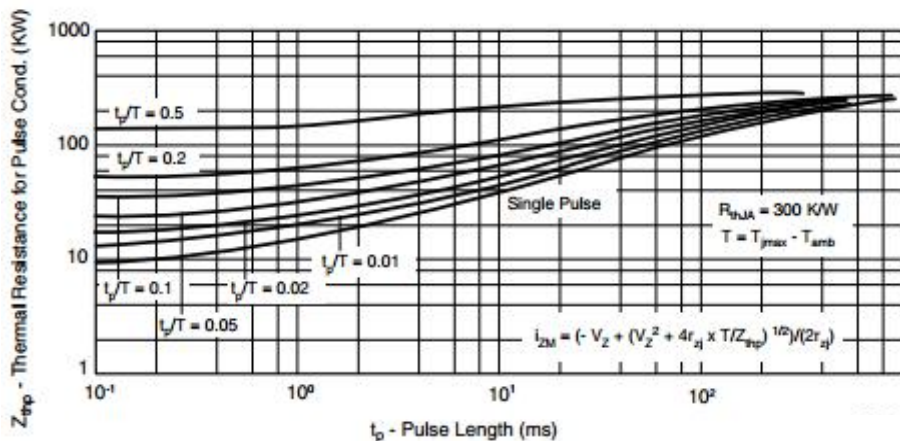
Characteristics at $T_{amb} = 25^{\circ}\text{C} \pm 0^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	-	-	0.3 1)	K/mW
Forward Voltage at $I_F = 100\text{mA}$	V_F	-	-	1	V
1) Valid provided that electrodes are kept at ambient temperature					

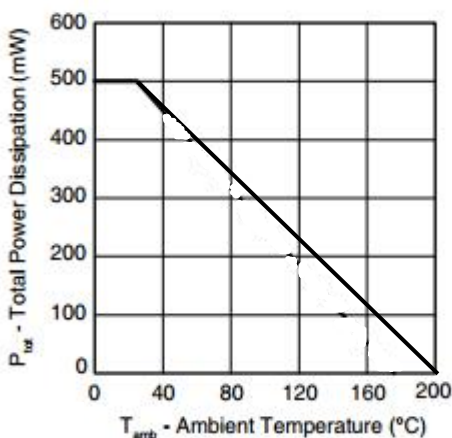
LL-34 ZMM Series Zener Diode (ZMM2V4~ZMM75)

Type		Zener voltage rang			Reverse leakage current		Dynamic resistance			Temperature Coefficient	
		V _Z (V)		IZT1	IR(μA)		ZZT(Ω)	ZZK(Ω)	IZT2	TK V _Z (%/K)	
		MIN.	MAX.	(mA)	MAX.	VR(V)	@IZT1	@IZT2	(mA)	MIN	MAX
ZMM	2V4	2.28	2.56	5	<50	1	<85	<600	1.0	-0.09	-0.06
ZMM	2V7	2.50	2.90	5	<10	1	<85	<600	1.0	-0.09	-0.06
ZMM	3V0	2.80	3.20	5	<4	1	<85	<600	1.0	-0.08	-0.05
ZMM	3V3	3.10	3.50	5	<2	1	<85	<600	1.0	-0.08	-0.05
ZMM	3V6	3.40	3.80	5	<2	1	<85	<600	1.0	-0.08	-0.05
ZMM	3V9	3.70	4.10	5	<2	1	<85	<600	1.0	-0.08	-0.05
ZMM	4V3	4.00	4.60	5	<1	1	<75	<600	1.0	-0.06	-0.03
ZMM	4V7	4.40	5.00	5	<0.5	1	<60	<600	1.0	-0.05	0.02
ZMM	5V1	4.80	5.40	5	<0.1	1	<35	<550	1.0	-0.02	0.02
ZMM	5V6	5.20	6.00	5	<0.1	1	<25	<450	1.0	-0.05	0.05
ZMM	6V2	5.80	6.60	5	<0.1	2	<10	<200	1.0	0.03	0.06
ZMM	6V8	6.40	7.20	5	<0.1	3	<8	<150	1.0	0.03	0.07
ZMM	7V5	7.00	7.90	5	<0.1	5	<7	<50	1.0	0.03	0.07
ZMM	8V2	7.70	8.70	5	<0.1	6.2	<7	<50	1.0	0.03	0.08
ZMM	9V1	8.50	9.60	5	<0.1	6.8	<10	<50	1.0	0.03	0.09
ZMM	10	9.40	10.60	5	<0.1	7.5	<15	<70	1.0	0.03	0.10
ZMM	11	10.40	11.60	5	<0.1	8.2	<20	<70	1.0	0.03	0.11
ZMM	12	11.40	12.70	5	<0.1	9.1	<20	<90	1.0	0.03	0.11
ZMM	13	12.40	14.10	5	<0.1	10	<26	<110	1.0	0.03	0.11
ZMM	15	13.80	15.60	5	<0.1	11	<30	<110	1.0	0.03	0.11
ZMM	16	15.30	17.10	5	<0.1	12	<40	<170	1.0	0.03	0.11
ZMM	18	16.80	19.10	5	<0.1	13	<50	<170	1.0	0.03	0.11
ZMM	20	18.80	21.20	5	<0.1	15	<55	<220	1.0	0.03	0.11
ZMM	22	20.80	23.30	5	<0.1	16	<55	<220	1.0	0.04	0.12
ZMM	24	22.80	25.60	5	<0.1	18	<80	<220	1.0	0.04	0.12
ZMM	27	25.10	28.90	5	<0.1	20	<80	<220	1.0	0.04	0.12
ZMM	30	28.00	32.00	5	<0.1	22	<80	<220	1.0	0.04	0.12
ZMM	33	31.00	35.00	5	<0.1	24	<80	<220	1.0	0.04	0.12
ZMM	36	34.00	38.00	5	<0.1	27	<80	<220	1.0	0.04	0.12
ZMM	39	37.00	41.00	2.5	<0.1	30	<90	<500	0.5	0.04	0.12
ZMM	43	40.00	46.00	2.5	<0.1	33	<90	<600	0.5	0.04	0.12
ZMM	47	44.00	50.00	2.5	<0.1	36	<110	<700	0.5	0.04	0.12
ZMM	51	48.00	54.00	2.5	<0.1	39	<125	<700	0.5	0.04	0.12
ZMM	56	52.00	60.00	2.5	<0.1	43	<135	<1000	0.5	0.04	0.12
ZMM	62	58.00	66.00	2.5	<0.1	47	<150	<1000	0.5	0.04	0.12
ZMM	68	64.00	72.00	2.5	<0.1	51	<200	<1000	0.5	0.04	0.12
ZMM	75	70.00	80.00	2.5	<0.1	56	<250	<1500	0.5	0.04	0.12

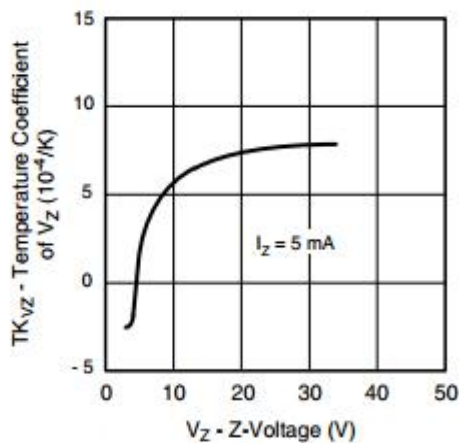
BASIC CHARACTERISTICS ($T_{amb} = 25^\circ\text{C}$, unless otherwise specified)



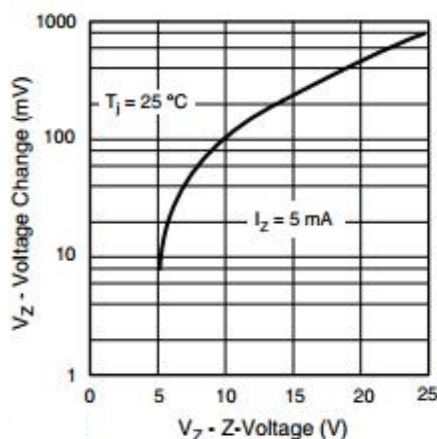
Thermal Response



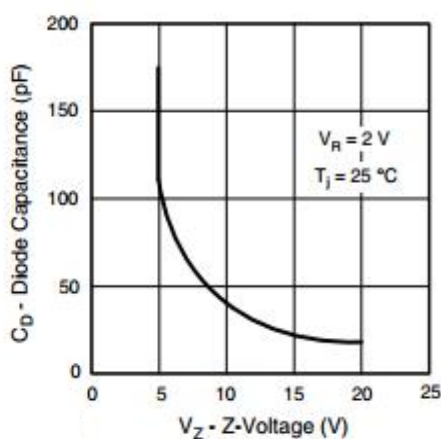
Total Power Dissipation vs. Ambient Temperature



Temperature Coefficient of V_Z vs. Z-Voltage

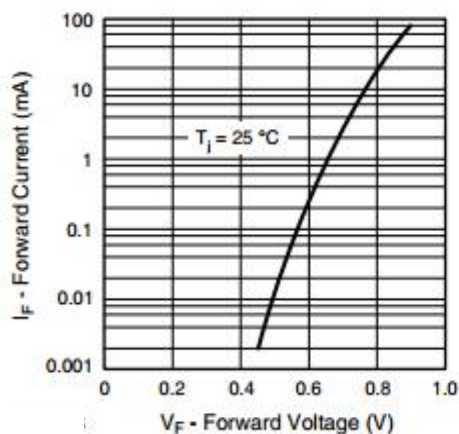


Typical Change of Working Voltage under Operating Conditions at $T_{amb} = 25^\circ\text{C}$

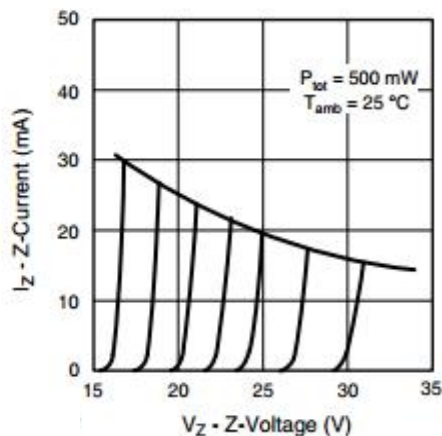


Diode Capacitance vs. Z-Voltage

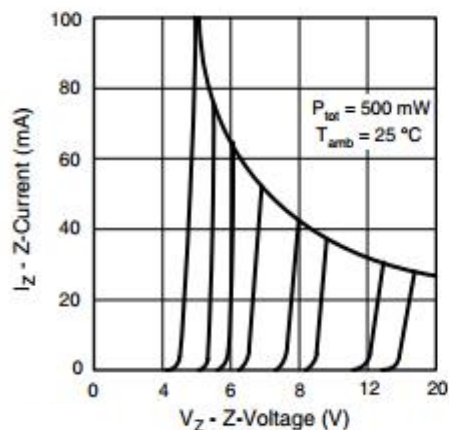
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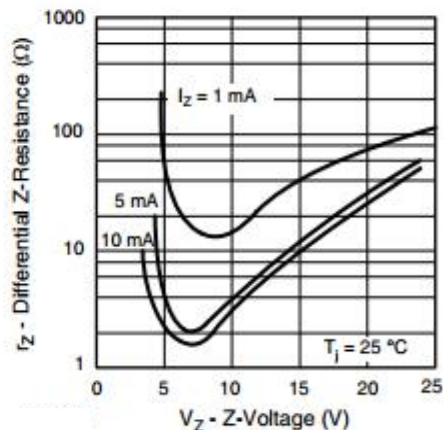
Forward Current vs. Forward Voltage



Z-Current vs. Z-Voltage

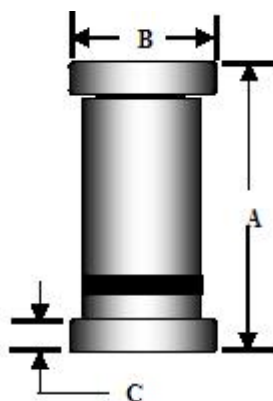


Z-Current vs. Z-Voltage



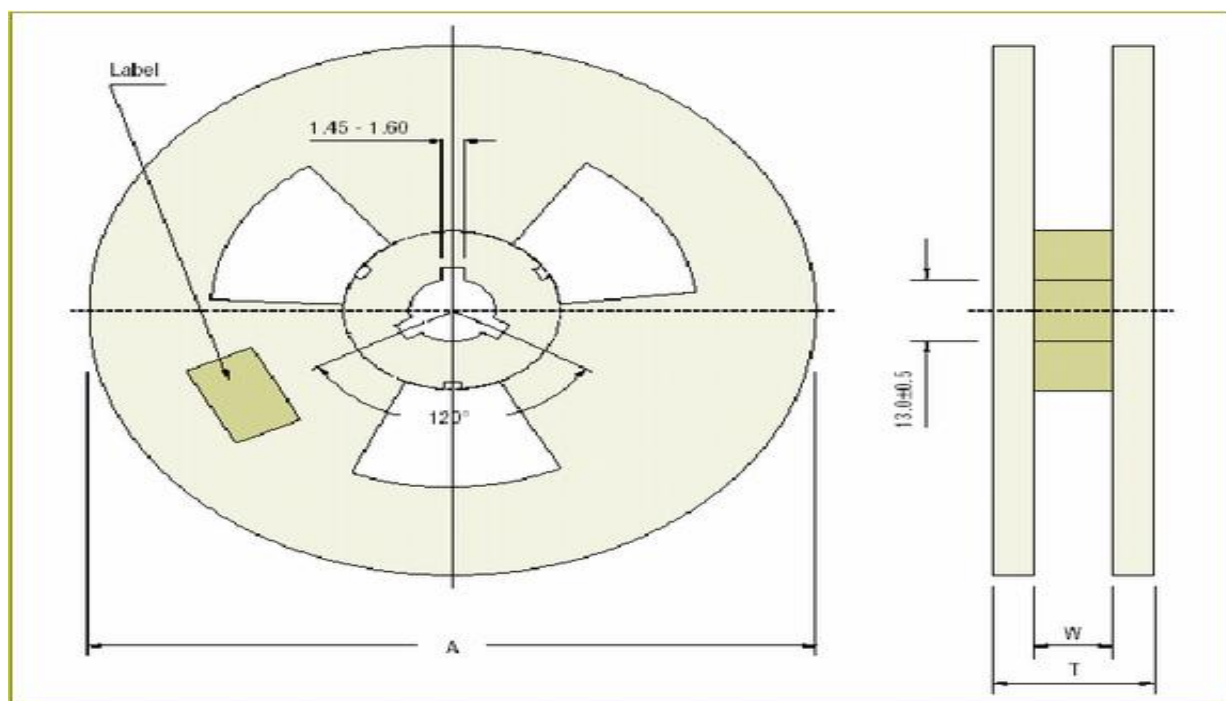
Differential Z-Resistance vs. Z-Voltage

Package Outline



MiniMELF		
Dim	Min	Max
A	3.30	3.70
B	1.30	1.60
C	0.28	0.50
All Dimensions in mm		

- Notes:
1. All dimensions are within DO213AC JEDEC standard.
 2. LL-34 polarity denoted by cathode band.



Reel Specifications

Package	Tape	Reel Dia.	Devices	Inside	Reel
	Width		per Reel	Thickness	Thickness
		A - Max	and MOQ	W	T - Max
(Mini MELF)	8	180	2,500	8.4±2	14.4