

**DL52/ZMM52-SERIES  
ZENER DIODES**

Zener Voltage: 2.4-56V Peak Pulse Power: 500mW



**Features**

- Low zener impedance
- Low regulation factor
- High temperature soldering guaranteed: 260° C/10S at terminals
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

**Circuit Diagram**



**Mechanical Data**

- Case: MINI MELF/DL-35 molded glass body
- Terminals: Plated leads, solderable per MIL-STD 750, method 2026
- Polarity: Color band denotes cathode end Mounting
- Position: Any
- Weight: 0.002 ounce, 0.05 gram
- Marking: Cathode band

**Maximum Ratings@T<sub>A</sub>=25°C unless otherwise specified**

Parameter	Symbol	Value	Units
Zener Current see Table Characteristics			
Power Dissipation at Tamb=25°C(Note1)	P <sub>D</sub>	500	mW
Operating Junction Temperature	T <sub>J</sub>	175	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to 175	°C
Typical Thermal resistance junction to Ambient(Note 1)	R <sub>θJA</sub>	0.3	K/mW
Forward Voltage @ I <sub>F</sub> = 100mA	V <sub>F</sub>	1.0	V

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

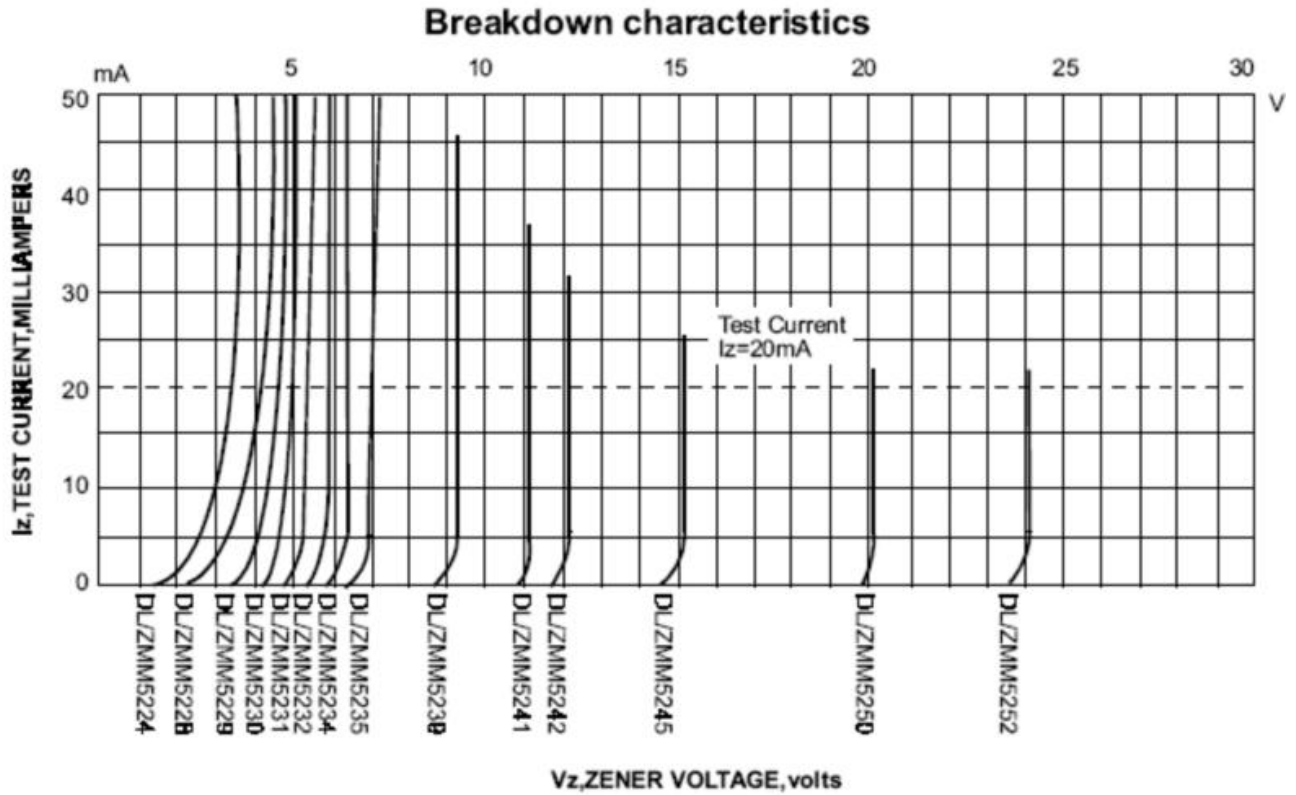
**Electrical Characteristics @ $T_A=25^{\circ}\text{C}$  unless otherwise specified**

Device Type	Nominal Zener Voltage $V_Z@I_{ZT}$ (Volts)	Test Current $I_{ZT}$ (mA)	Maximum Zener Impedance		Maximum Reverse Leakage Current		Typical Temperature Coefficient (%/°C)	Maximum Regulator Current $I_{ZM}$ (mA)
			$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}=0.25\text{mA}$	$I_R$	@ $V_R$		
			Ohms	Ohms	$\mu\text{A}$	Volts		
DL5221B/ZMM5221B	2.4	20	30	1200	100	1.0	-0.085	191
DL5222B/ZMM5222B	2.5	20	30	1250	100	1.0	-0.085	182
DL5223B/ZMM5223B	2.7	20	30	1300	75	1.0	-0.080	168
DL5224B/ZMM5224B	2.8	20	30	1400	75	1.0	-0.080	162
DL5225B/ZMM5225B	3.0	20	29	1600	50	1.0	-0.075	151
DL5226B/ZMM5226B	3.3	20	28	1600	25	1.0	-0.070	138
DL5227B/ZMM5227B	3.6	20	24	1700	15	1.0	-0.065	126
DL5228B/ZMM5228B	3.9	20	23	1900	10	1.0	-0.060	115
DL5229B/ZMM5229B	4.3	20	22	2000	5.0	1.0	$\pm 0.055$	106
DL5230B/ZMM5230B	4.7	20	19	1900	5.0	2.0	$\pm 0.030$	97
DL5231B/ZMM5231B	5.1	20	17	1600	5.0	2.0	$\pm 0.030$	89
DL5232B/ZMM5232B	5.6	20	11	1600	5.0	3.0	+0.038	81
DL5233B/ZMM5233B	6.0	20	7	1600	5.0	3.5	+0.038	76
DL5234B/ZMM5234B	6.2	20	7	1000	5.0	4.0	+0.045	73
DL5235B/ZMM5235B	6.8	20	5	750	3.0	5.0	+0.050	67
DL5236B/ZMM5236B	7.5	20	6	500	3.0	6.0	+0.058	61
DL5237B/ZMM5237B	8.2	20	8	500	3.0	6.5	+0.062	55
DL5238B/ZMM5238B	8.7	20	8	600	3.0	6.5	+0.065	52
DL5239B/ZMM5239B	9.1	20	10	600	3.0	7.0	+0.068	50
DL5240B/ZMM5240B	10	20	17	600	3.0	8.0	+0.075	45
DL5241B/ZMM5241B	11	20	22	600	2.0	8.4	+0.076	41
DL5242B/ZMM5242B	12	20	30	600	1.0	9.1	+0.077	38
DL5243B/ZMM5243B	13	9.5	13	600	0.5	9.9	+0.079	35
DL5244B/ZMM5244B	14	9.0	15	600	0.1	10	+0.082	32
DL5245B/ZMM5245B	15	8.5	16	600	0.1	11	+0.082	30
DL5246B/ZMM5246B	16	7.8	17	600	0.1	12	+0.083	28
DL5247B/ZMM5247B	17	7.4	19	600	0.1	13	+0.084	27
DL5248B/ZMM5248B	18	7.0	21	600	0.1	14	+0.085	25
DL5249B/ZMM5249B	19	6.6	23	600	0.1	14	+0.085	24
DL5250B/ZMM5250B	20	6.2	25	600	0.1	15	+0.086	23
DL5251B/ZMM5251B	22	5.6	29	600	0.1	17	+0.087	21.2
DL5252B/ZMM5252B	24	5.2	33	600	0.1	18	+0.088	19.1
DL5253B/ZMM5253B	25	5.0	35	600	0.1	19	+0.089	18.2
DL5254B/ZMM5254B	27	4.6	41	600	0.1	21	+0.090	16.8
DL5255B/ZMM5255B	28	4.5	44	600	0.1	21	+0.091	16.2
DL5256B/ZMM5256B	30	4.2	49	600	0.1	23	+0.091	15.1
DL5257B/ZMM5257B	33	3.8	58	700	0.1	25	+0.092	13.8
DL5258B/ZMM5258B	36	3.4	70	700	0.1	27	+0.093	12.6
DL5259B/ZMM5259B	39	3.2	80	800	0.1	30	+0.094	11.5
DL5260B/ZMM5260B	43	3.0	93	900	0.1	33	+0.095	10.6
DL5261B/ZMM5261B	47	2.7	150	1000	0.1	36	+0.095	9.7
DL5262B/ZMM5262B	51	2.5	125	1100	0.1	39	+0.096	8.9
DL5263B/ZMM5263B	56	2.2	150	1300	0.1	43	+0.096	8.1

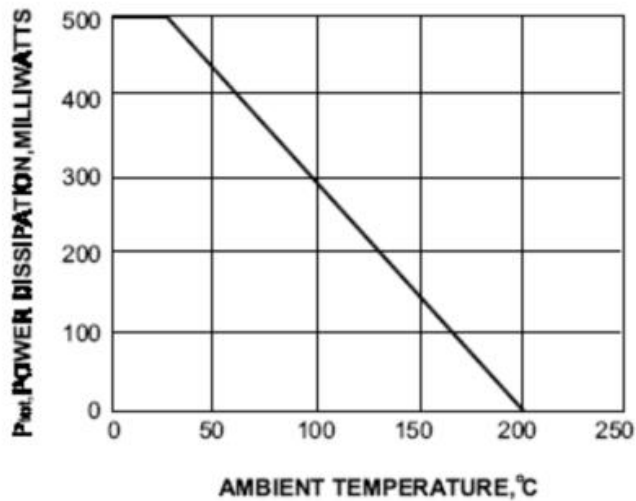
Note 1: Suffix "B" indicate  $\pm 5\%$  tolerance

- China - Germany - Korea - Singapore - United States •
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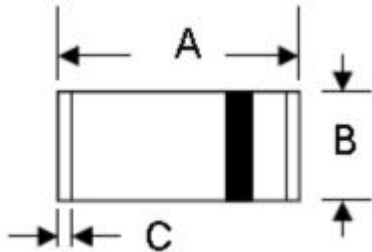
**Ratings and Characteristics Curves**



**Admissible power dissipation versus ambient temperature**  
Valid provided that leads are kept at ambient temperature at a distance of 10mm from case



**Mechanical Dimensions Mini MELF/DL-35**



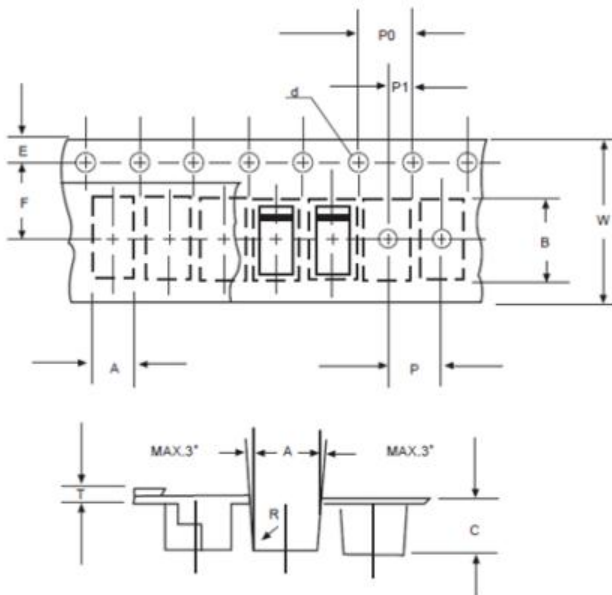
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
B	1.30	1.60	0.051	0.063
C	0.28	0.50	0.011	0.020

**Ordering Information**

Device	Package	Shipping
DL52/ZMM52-SERIES	Mini MELF/DL-35 (Pb-Free)	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Carrier Tape Specification Mini MELF/DL-35**



SYMBOL	Millimeters	
	Min.	Max.
A	1.50	1.70
B	3.60	3.80
C	1.55	1.75
d	1.40	1.60
E	1.65	1.85
F	5.45	5.55
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.17	0.27
W	7.90	8.10

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