



**THE DATASHEET OF  
DL5241B-TP**



# DL5221 THRU DL5267

## 500 mW Zener Diode 2.4 to 75 Volts

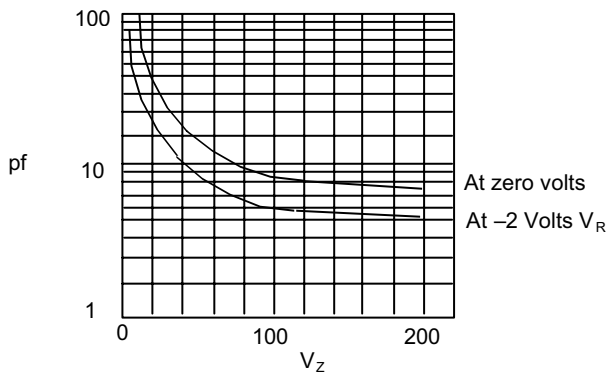
### Features

- Wide Voltage Range Available
- Glass Package
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Surface Mount Package
- Marking : Cathode band denotes polarity
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates Compliant. See ordering information)

### Maximum Ratings

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- 500 mWatt DC Power Dissipation
- Power Derating: 4.0mW/°C above 50°C
- Forward Voltage @ 200mA: 1.1 Volts
- Moisture Sensitivity Level 1

Figure 1 - Typical Capacitance



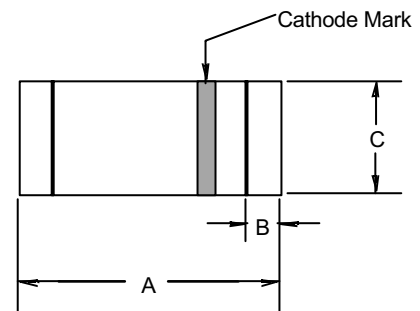
Typical Capacitance (pf) – versus – Zener voltage ( $V_z$ )

Figure 2 - Derating Curve



Power Dissipation (mW) - Versus - Ambient Temperature °C

### MINIMELF



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.130	.146	3.30	3.70	
B	.008	.016	.20	.40	
C	.055	.059	1.40	1.50	∅

### SUGGESTED SOLDER PAD LAYOUT



Note:1.Lead in Glass Exemption Applied, see EU Directive Annex 5.

# DL5221 thru DL5267



Micro Commercial Components

MCC PART NUMBER	NOMINAL ZENER VOLTAGE $V_Z$ @ $I_{ZT}$ VOLTS	TEST CURRENT $I_{ZT}$ mA	MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY		MAXIMUM REVERSE LEAKAGE CURRENT		MAX. ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY % / °C
			$Z_{ZT}$ @ $I_{ZT}$	$Z_{ZK}$ @ $I_{ZK} = 0.25mA$	$I_R$ @ $V_R$	$V_R$	
			OHMS	OHMS	$\mu A$	VOLTS	
DL5221	2.4	20	30	1200	100	1.0	-0.085
DL5222	2.5	20	30	1250	100	1.0	-0.085
DL5223	2.7	20	30	1300	75	1.0	-0.080
DL5224	2.8	20	30	1400	75	1.0	-0.080
DL5225	3.0	20	29	1600	50	1.0	-0.075
DL5226	3.3	20	28	1600	25	1.0	-0.070
DL5227	3.6	20	24	1700	15	1.0	-0.065
DL5228	3.9	20	23	1900	10	1.0	-0.060
DL5229	4.3	20	22	2000	5.0	1.0	$\pm 0.055$
DL5230	4.7	20	19	1900	5.0	2.0	$\pm 0.030$
DL5231	5.1	20	17	1600	5.0	2.0	$\pm 0.030$
DL5232	5.6	20	11	1600	5.0	3.0	+0.038
DL5233	6.0	20	7.0	1600	5.0	3.5	+0.038
DL5234	6.2	20	7.0	1000	5.0	4.0	+0.045
DL5235	6.8	20	5.0	750	3.0	5.0	+0.050
DL5236	7.5	20	6.0	500	3.0	6.0	+0.058
DL5237	8.2	20	8.0	500	3.0	6.5	+0.062
DL5238	8.7	20	8.0	600	3.0	6.5	+0.065
DL5239	9.1	20	10	600	3.0	7.0	+0.068
DL5240	10	20	17	600	3.0	8.0	+0.075
DL5241	11	20	22	600	2.0	8.4	+0.076
DL5242	12	20	30	600	1.0	9.1	+0.077
DL5243	13	9.5	13	600	0.5	9.9	+0.079
DL5244	14	9.0	15	600	0.1	10	+0.082
DL5245	15	8.5	16	600	0.1	11	+0.082
DL5246	16	7.8	17	600	0.1	12	+0.083
DL5247	17	7.4	19	600	0.1	13	+0.084
DL5248	18	7.0	21	600	0.1	14	+0.085
DL5249	19	6.6	23	600	0.1	14	+0.086
DL5250	20	6.2	25	600	0.1	15	+0.086
DL5251	22	5.6	29	600	0.1	17	+0.087
DL5252	24	5.2	33	600	0.1	18	+0.088
DL5253	25	5.0	35	600	0.1	19	+0.089
DL5254	27	4.6	41	600	0.1	21	+0.090
DL5255	28	4.5	44	600	0.1	21	+0.091
DL5256	30	4.2	49	600	0.1	23	+0.091
DL5257	33	3.8	58	700	0.1	25	+0.092
DL5258	36	3.4	70	700	0.1	27	+0.093
DL5259	39	3.2	80	800	0.1	30	+0.094
DL5260	43	3.0	93	900	0.1	33	+0.095
DL5261	47	2.7	105	1000	0.1	36	+0.095
DL5262	51	2.5	125	1100	0.1	39	+0.096
DL5263	56	2.2	150	1300	0.1	43	+0.096
DL5264	60	2.1	170	1400	0.1	46	+0.097
DL5265	62	2.0	185	1400	0.1	47	+0.097
DL5266	68	1.8	230	1600	0.1	52	+0.097
DL5267	75	1.7	270	1700	0.1	56	+0.098

NOTE 1: Table as shown lists type numbers, which indicate a tolerance of  $\pm 20\%$  with guaranteed limits on only  $V_Z$ ,  $I_R$ , and  $V_F$ . Devices with guaranteed limits on all six parameters are indicated by suffix "A" for  $\pm 10\%$ , "B" for  $\pm 5\%$ , "C" for  $\pm 2\%$  tolerance

NOTE 2: The electrical characteristics are measured after allowing the device to stabilize for 20 seconds.

NOTE 3: Temperature coefficient ( $\alpha_{VZ}$ ). Test conditions for temperature coefficient are as follows:

- a.  $I_{ZT} = 7.5mA$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (DL5221 thru DL5242)
- b.  $I_{ZT} = \text{Rated } I_{ZT}$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (DL5243 thru DL5267)

Device to be temperature stabilized with current applied prior to reading breakdown voltage at the specified ambient temperature.

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



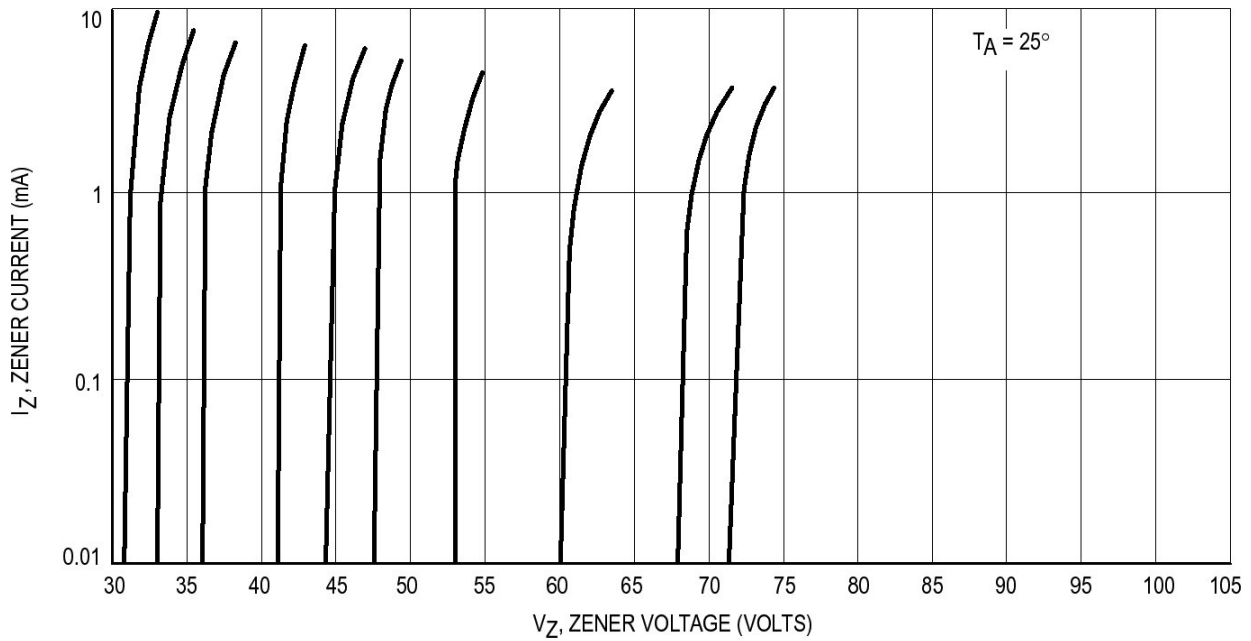
Figure 1. Zener Voltage versus Zener Current –  $V_Z=1$  thru 16 Volts



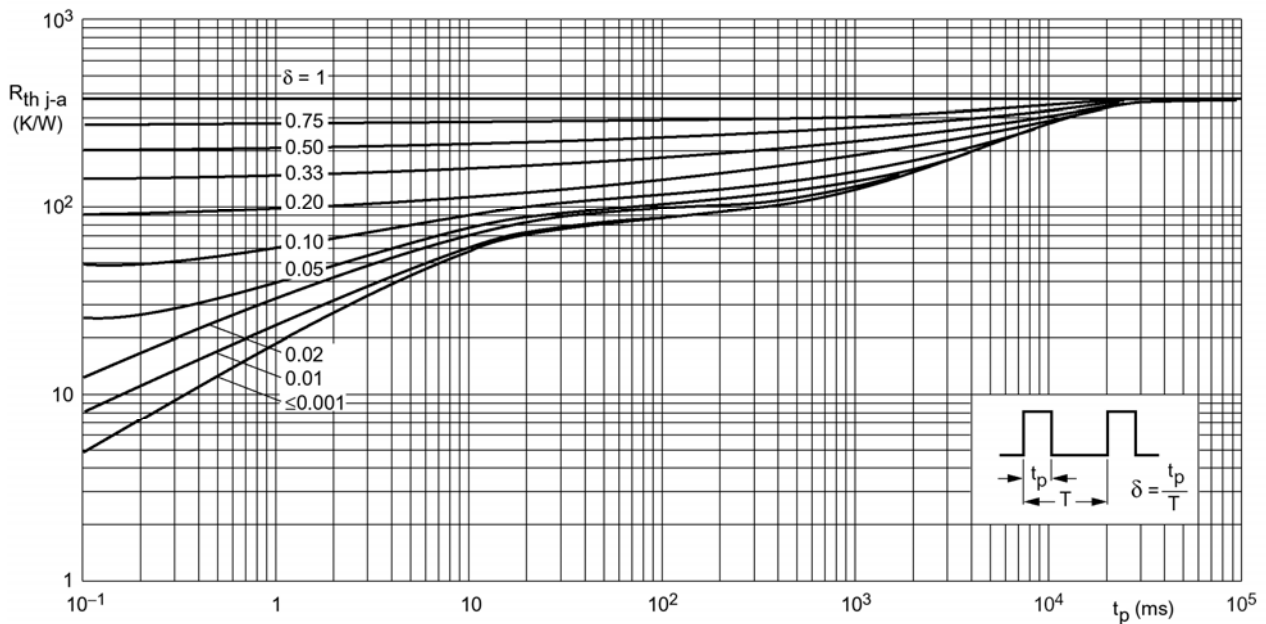
Figure 2. Zener Voltage versus Zener Current –  $V_Z=15$  thru 30 Volts

# DL5221 thru DL5267

## Characteristics (T<sub>j</sub>=25°C unless otherwise specified)



**Figure 3. Zener Voltage versus Zener Current – Vz=30 thru 75 Volts**



**Figure 4. Thermal resistance from junction to ambient as a function of pulse duration**



Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

**\*\*\*IMPORTANT NOTICE\*\*\***

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*LIFE SUPPORT\*\*\***

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

[www.mccsemi.com](http://www.mccsemi.com)

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View DL5241B-TP on WIN SOURCE](#)
- ⊖ [Micro Commercial Co](#) Information

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management