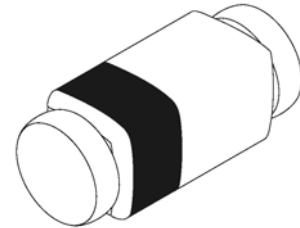




# Zener diode

## Features

- 1. High reliability
- 2. Very sharp reverse characteristic
- 3. Low reverse current level
- 4.  $V_Z$ -tolerance  $\pm 5\%$



## Applications

Voltage stabilization

## Absolute Maximum Ratings

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$T_{amb} \leq 75^\circ\text{C}$		$P_V$	500	mW
Z-current			$I_Z$	$P_V/V_Z$	mA
Junction temperature			$T_j$	200	$^\circ\text{C}$
Storage temperature range			$T_{stg}$	-65~+200	$^\circ\text{C}$

## Maximum Thermal Resistance

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l=9.5\text{mm}(3/8")$ $T_L=\text{constant}$	$R_{thJA}$	300	K/W

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

## Electrical Characteristics

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=200\text{mA}$		$V_F$			1.1	V



# TZQ5221B~TZQ5271B

Type	$V_{Znom}^{1)}$	$I_{ZT}$	for	$r_{zT}$	$r_{zK}$	at	$I_{ZK}$	$I_R$	at	$V_R$	$TK_{VZ}$
	V	mA		$\Omega$	$\Omega$		mA	$\mu A$		V	%/K
TZQ5221B	2.4	20		<30	<1200		0.25	<100		1.0	<-0.085
TZQ5222B	2.5	20		<30	<1250		0.25	<100		1.0	<-0.085
TZQ5223B	2.7	20		<30	<1300		0.25	<75		1.0	<-0.080
TZQ5224B	2.8	20		<30	<1400		0.25	<75		1.0	<-0.080
TZQ5225B	3.0	20		<29	<1600		0.25	<50		1.0	<-0.075
TZQ5226B	3.3	20		<28	<1600		0.25	<25		1.0	<-0.070
TZQ5227B	3.6	20		<24	<1700		0.25	<15		1.0	<-0.065
TZQ5228B	3.9	20		<23	<1900		0.25	<10		1.0	<-0.060
TZQ5229B	4.3	20		<22	<2000		0.25	<5		1.0	<+0.055
TZQ5230B	4.7	20		<19	<1900		0.25	<5		2.0	<+0.030
TZQ5231B	5.1	20		<17	<1600		0.25	<5		2.0	<+0.030
TZQ5232B	5.6	20		<11	<1600		0.25	<5		3.0	<+0.038
TZQ5233B	6.0	20		<7	<1600		0.25	<5		3.5	<+0.038
TZQ5234B	6.2	20		<7	<1000		0.25	<5		4.0	<+0.045
TZQ5235B	6.8	20		<5	<750		0.25	<3		5.0	<+0.050
TZQ5236B	7.5	20		<6	<500		0.25	<3		6.0	<+0.058
TZQ5237B	8.2	20		<8	<500		0.25	<3		6.5	<+0.062
TZQ5238B	8.7	20		<8	<600		0.25	<3		6.5	<+0.065
TZQ5239B	9.1	20		<10	<600		0.25	<3		7.0	<+0.068
TZQ5240B	10	20		<17	<600		0.25	<3		8.0	<+0.075
TZQ5241B	11	20		<22	<600		0.25	<2		8.4	<+0.076
TZQ5242B	12	20		<30	<600		0.25	<1		9.1	<+0.077
TZQ5243B	13	9.5		<13	<600		0.25	<0.5		9.9	<+0.079
TZQ5244B	14	9.0		<15	<600		0.25	<0.1		10	<+0.082
TZQ5245B	15	8.5		<16	<600		0.25	<0.1		11	<+0.082
TZQ5246B	16	7.8		<17	<600		0.25	<0.1		12	<+0.083
TZQ5247B	17	7.4		<19	<600		0.25	<0.1		13	<+0.084
TZQ5248B	18	7.0		<21	<600		0.25	<0.1		14	<+0.085
TZQ5249B	19	6.6		<23	<600		0.25	<0.1		15	<+0.086
TZQ5250B	20	6.2		<25	<600		0.25	<0.1		16	<+0.086
TZQ5251B	22	5.6		<29	<600		0.25	<0.1		17	<+0.087
TZQ5252B	24	5.2		<33	<600		0.25	<0.1		18	<+0.088
TZQ5253B	25	5.0		<35	<600		0.25	<0.1		19	<+0.089
TZQ5254B	27	4.6		<41	<600		0.25	<0.1		21	<+0.090
TZQ5255B	28	4.5		<44	<600		0.25	<0.1		21	<+0.091
TZQ5256B	30	4.2		<49	<600		0.25	<0.1		23	<+0.091
TZQ5257B	33	3.8		<58	<700		0.25	<0.1		25	<+0.092
TZQ5258B	36	3.4		<70	<700		0.25	<0.1		27	<+0.093
TZQ5259B	39	3.2		<80	<800		0.25	<0.1		30	<+0.094
TZQ5260B	43	3.0		<93	<900		0.25	<0.1		33	<+0.095
TZQ5261B	47	2.7		<105	<1000		0.25	<0.1		36	<+0.095
TZQ5262B	51	2.5		<125	<1100		0.25	<0.1		39	<+0.096
TZQ5263B	56	2.2		<150	<1300		0.25	<0.1		43	<+0.096
TZQ5264B	60	2.1		<170	<1400		0.25	<0.1		46	<+0.097
TZQ5265B	62	2.0		<185	<1400		0.25	<0.1		47	<+0.097
TZQ5266B	68	1.8		<230	<1600		0.25	<0.1		52	<+0.097
TZQ5267B	75	1.7		<270	<1700		0.25	<0.1		58	<+0.098
TZQ5268B	82	1.5		<330	<2000		0.25	<0.1		62	<+0.098
TZQ5269B	87	1.4		<370	<2200		0.25	<0.1		68	<+0.099
TZQ5270B	91	1.4		<400	<2300		0.25	<0.1		69	<+0.099
TZQ5271B	100	1.3		<500	<2600		0.25	<0.1		76	<+0.11

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature( $T_L$ ) at 30°C, 9.5mm (3/8") from the diode body.

**Excel Semiconductor**



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

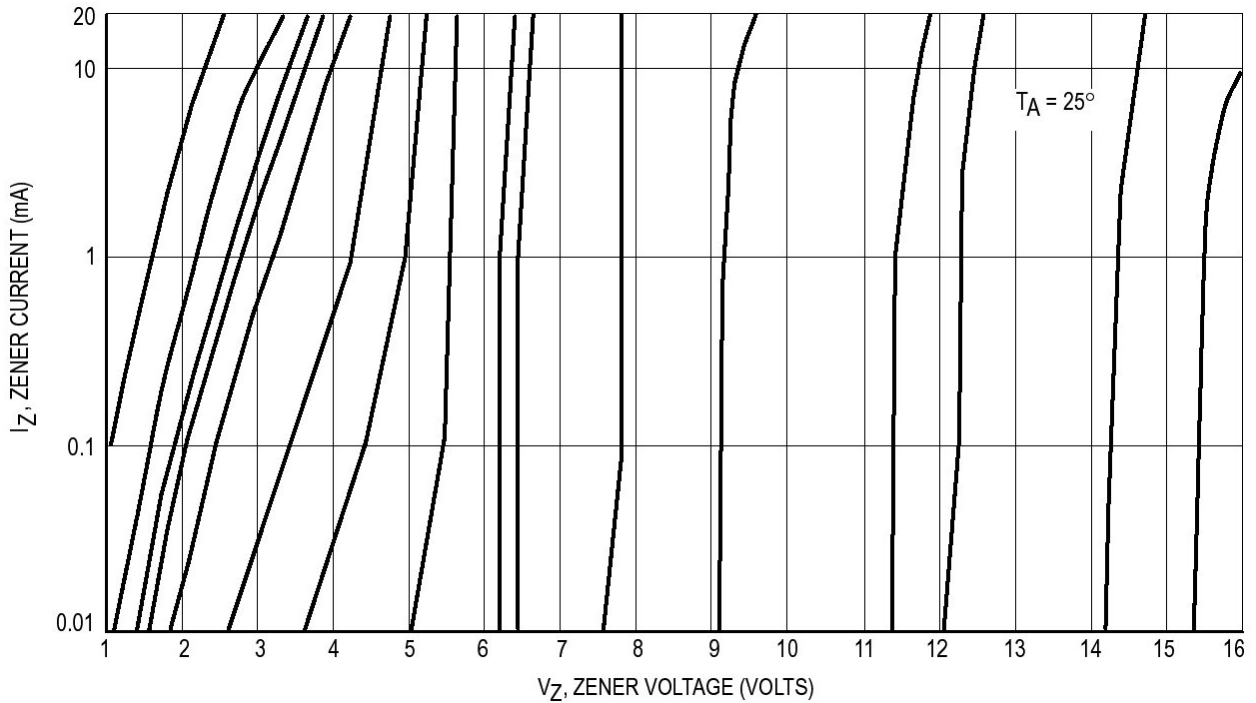


Figure 1. Zener Voltage versus Zener Current –  $V_Z=1$  thru 16 Volts

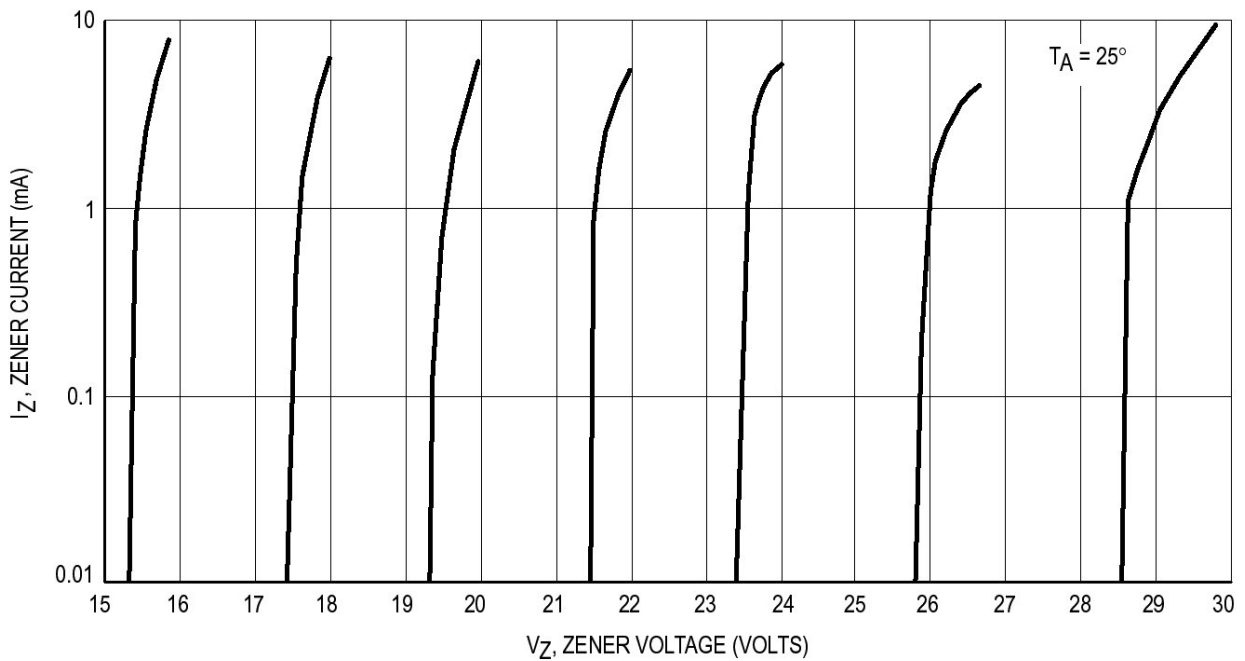


Figure 2. Zener Voltage versus Zener Current –  $V_Z=15$  thru 30 Volts

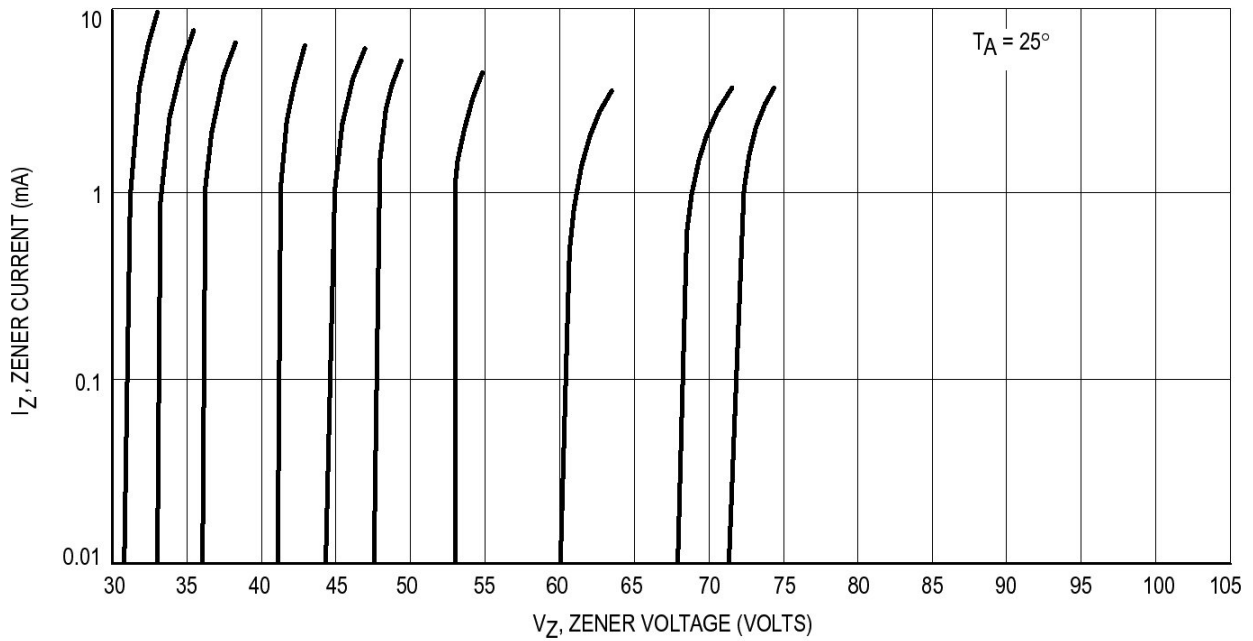


Figure 3. Zener Voltage versus Zener Current – Vz=30 thru 75 Volts

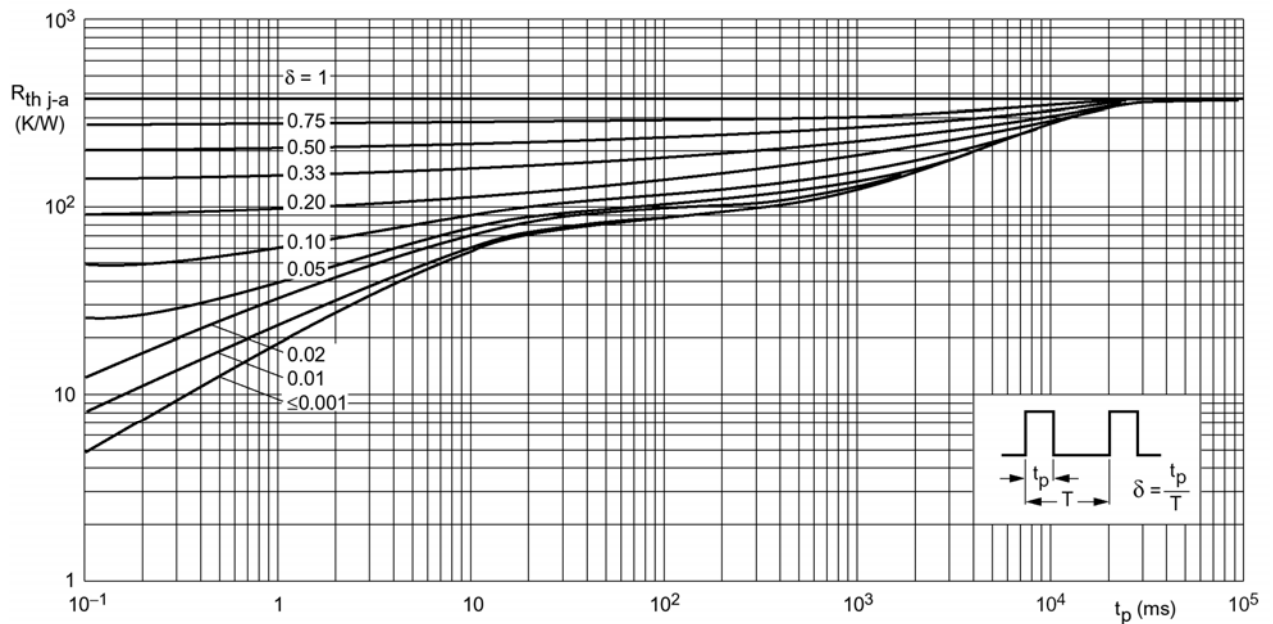
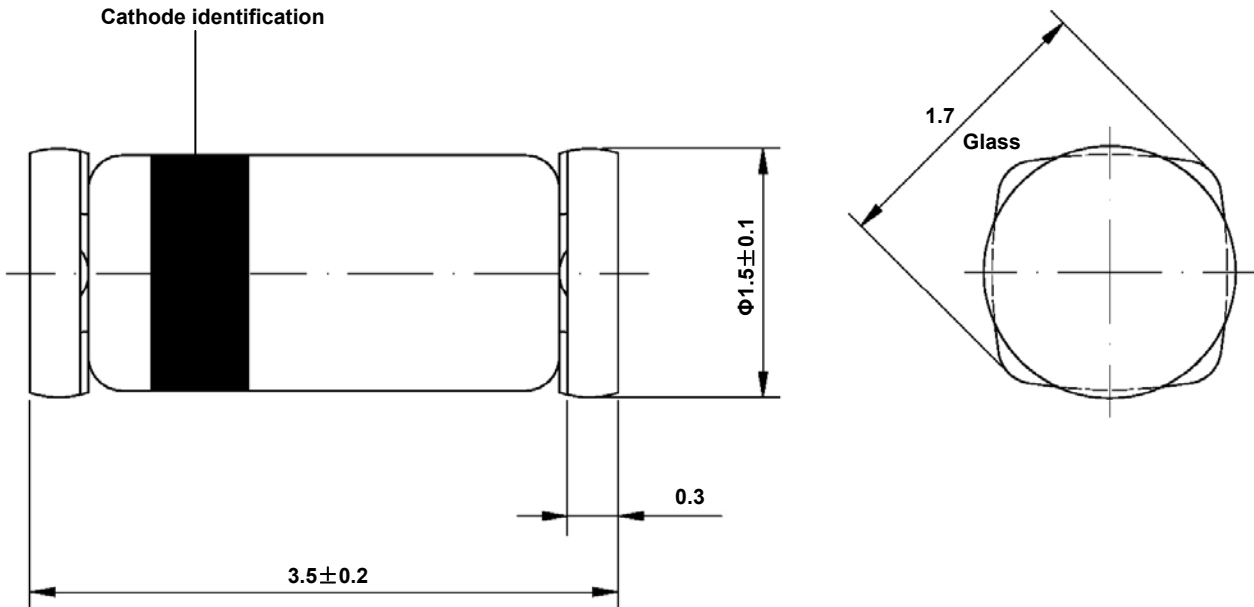


Figure 4. Thermal resistance from junction to ambient as a function of pulse duration



**Dimensions in mm**



Glass Case  
Quadro MELF  
Similar to JEDEC DO-213 AA