

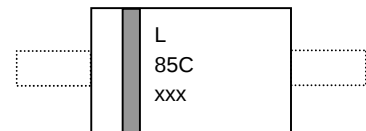
1.3 Watt DO-41 Hermetically Sealed Glass Zener Voltage Regulators



AXIAL LEAD
DO41

Maximum Ratings

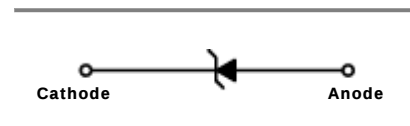
Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤50°C, Lead Length = 3/8"	P _D	1.3	W
Derate Above 50°C		6.67	mW/°C
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to +200	°C



L = Logo
85Cxxx = Device Code

Specification Features:

- § Zener Voltage Range = 3.3V to 75V
- § ESD Rating of Class 3 (>6 KV) per Human Body Model
- § DO-41 Package (DO-204AL)
- § Double Slug Type Construction
- § Former Metallurgical Bonded Construction
- § Oxide Passivated Die
- § RoHS Compliant and Halogen Free
- § Solder Hot Dip Tin (Sn) Lead Finish

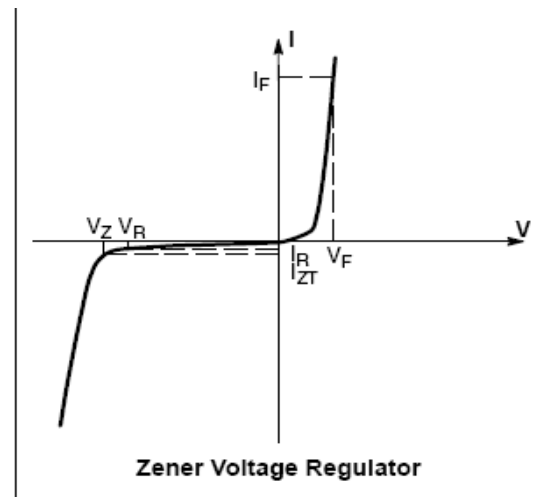


Specification Features:

- Case** : Double slug type, hermetically sealed glass
- Finish** : All external surfaces are corrosion resistant and leads are readily solderable
- Polarity** : Cathode indicated by polarity band
- Mounting**: Any

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 1.2 V Max., I_F = 200 mA for all types)

Symbol	Parameter
V _Z	Reverse Zener Voltage @ I _{ZT}
I _{ZT}	Reverse Current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse Leakage Current @ V _R
V _R	Breakdown Voltage
I _F	Forward Current
V _F	Forward Voltage @ I _F
I _R	Surge Current @ T _A = 25°C





ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Device (Note 1.)	Device Marking	Zener Voltage (Note 2 & 3.)				Zener Impedance (Note 4.)			Leakage Current		Surge Current IR (Note 5.)
		V _Z (Volts)			@I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _R @ V _R			
		Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(uA Max)	(Volts)	(mA)
BZX85C3V3	BZX85C3V3	3.1	3.3	3.5	80	20	400	1	60	1	1380
BZX85C3V6	BZX85C3V6	3.4	3.6	3.8	60	15	500	1	30	1	1260
BZX85C3V9	BZX85C3V9	3.7	3.9	4.1	60	15	500	1	5	1	1190
BZX85C4V3	BZX85C4V3	4	4.3	4.6	50	13	500	1	3	1	1070
BZX85C4V7	BZX85C4V7	4.4	4.7	5	45	13	600	1	3	1.5	970
BZX85C5V1	BZX85C5V1	4.8	5.1	5.4	45	10	500	1	1	2	890
BZX85C5V6	BZX85C5V6	5.2	5.6	6	45	7	400	1	1	2	810
BZX85C6V2	BZX85C6V2	5.8	6.2	6.6	35	4	300	1	1	3	730
BZX85C6V8	BZX85C6V8	6.4	6.8	7.2	35	3.5	300	1	1	4	660
BZX85C7V5	BZX85C7V5	7	7.5	7.9	35	3	200	0.5	1	4.5	605
BZX85C8V2	BZX85C8V2	7.7	8.2	8.7	25	5	200	0.5	1	5	550
BZX85C9V1	BZX85C9V1	8.5	9.1	9.6	25	5	200	0.5	1	6.5	500
BZX85C10	BZX85C10	9.4	10	10.6	25	7	200	0.5	0.5	7	454
BZX85C11	BZX85C11	10.4	11	11.6	20	8	300	0.5	0.5	7.7	414
BZX85C12	BZX85C12	11.4	12	12.7	20	9	350	0.5	0.5	8.4	380
BZX85C13	BZX85C13	12.4	13	14.1	20	10	400	0.5	0.5	9.1	344
BZX85C15	BZX85C15	13.8	15	15.6	15	15	500	0.5	0.5	10.5	304
BZX85C16	BZX85C16	15.3	16	17.1	15	15	500	0.5	0.5	11	285
BZX85C18	BZX85C18	16.8	18	19.1	15	20	500	0.5	0.5	12.5	250
BZX85C20	BZX85C20	18.8	20	21.2	10	24	600	0.5	0.5	14	225
BZX85C22	BZX85C22	20.8	22	23.3	10	25	600	0.5	0.5	15.5	205
BZX85C24	BZX85C24	22.8	24	25.6	10	25	600	0.5	0.5	17	190
BZX85C27	BZX85C27	25.1	27	28.9	8	30	750	0.25	0.5	19	170
BZX85C30	BZX85C30	28	30	32	8	30	1000	0.25	0.5	21	150
BZX85C33	BZX85C33	31	33	35	8	35	1000	0.25	0.5	23	135
BZX85C36	BZX85C36	34	36	38	8	40	1000	0.25	0.5	25	125
BZX85C39	BZX85C39	37	39	41	6	45	1000	0.25	0.5	27	115
BZX85C43	BZX85C43	40	43	46	6	50	1000	0.25	0.5	30	110
BZX85C47	BZX85C47	44	47	50	4	90	1500	0.25	0.5	33	95
BZX85C51	BZX85C51	48	51	54	4	115	1500	0.25	0.5	36	90
BZX85C56	BZX85C56	52	56	60	4	120	2000	0.25	0.5	39	80
BZX85C62	BZX85C62	58	62	66	4	125	2000	0.25	0.5	43	70
BZX85C68	BZX85C68	64	68	72	4	130	2000	0.25	0.5	47	65
BZX85C75	BZX85C75	70	75	80	4	150	2000	0.25	0.5	51	60

$V_F = 1.2\text{V}$ Max @ $I_F = 200\text{mA}$ for 30V below types, $V_F = 2.0\text{V}$ Max @ $I_F = 200\text{mA}$ for 30–56V types, and $V_F = 3.0\text{V}$ Max @ $I_F = 200\text{mA}$ for 60V above types

1. TOLERANCE AND TYPE NUMBER DESIGNATION (V_Z)

Tolerance designation – the type numbers listed have zener voltage min/max limits as shown.

2. SPECIALS AVAILABLE INCLUDE

Nominal zener voltages between the voltages shown and tighter voltage, for detailed information on price, availability and delivery, contact you nearest Tak Cheong representative.

3. ZENER VOLTAGE (V_Z) MEASUREMENT

The zener voltage (V_Z) is tested under pulse conditions such that T_J is no more than 2°C above T_A.

4. ZENER IMPEDANCE (Z_Z) DERIVATION

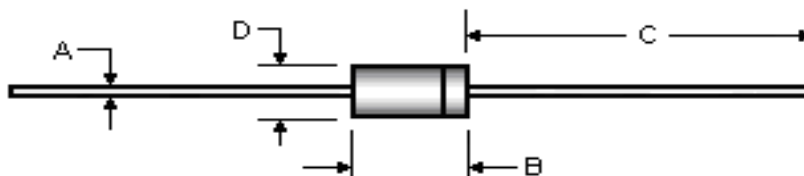
The zener impedance is derived from the 60 cycle AC voltage, which results when an AC current having an RMS value equal to 10% of the DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.

5 SURGE CURRENT (I_R) NON-REPETITIVE

The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT}. However, actual device capability is as described in Figure 5 of the General Data DO-41 Glass.

Package Outline

Case Outline



DIM	D0-41			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.68	0.81	0.027	0.032
B	3.70	4.25	0.146	0.167
C	25.40	---	1.000	---
D	2.10	2.60	0.083	0.102

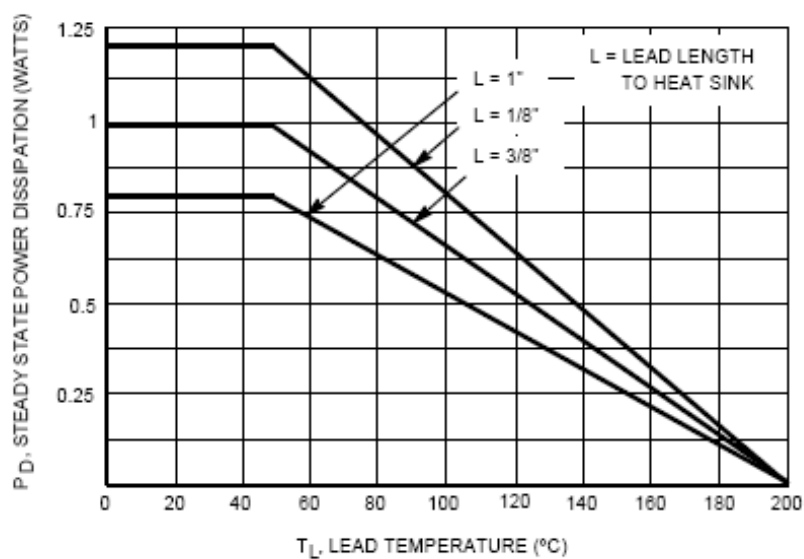


Figure 1. Power Temperature Derating Curve

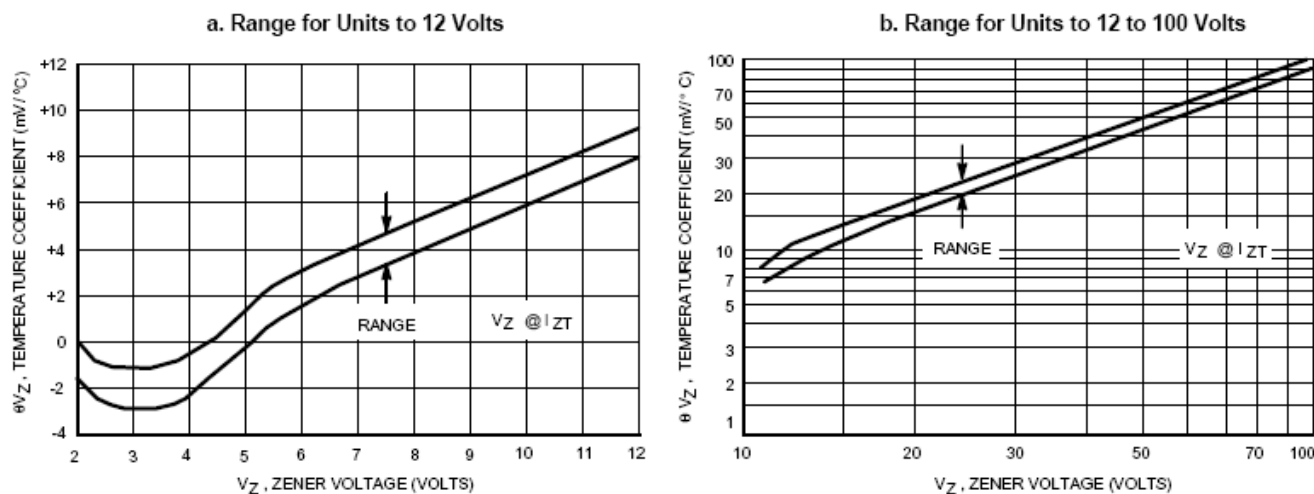


Figure 2. Temperature Coefficients
(-55 °C to +150 °C temperature range; 90% of the units are in the ranges indicated.)

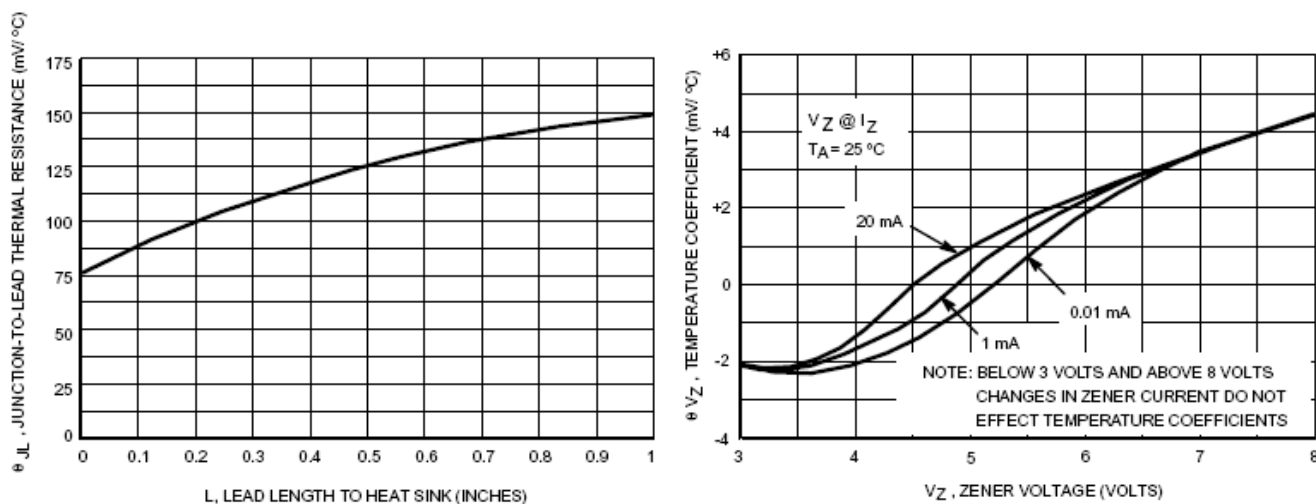
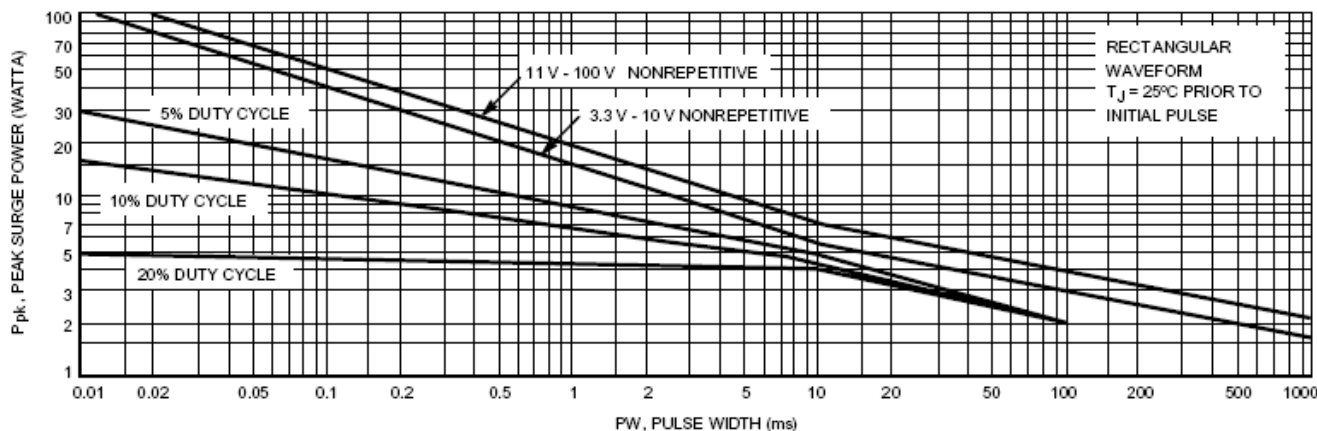


Figure 3. Typical Thermal Resistance
versus Lead Length

Figure 4. Effect of Zener Current



This graph represents 90 percentile data points.
For worst case design characteristics, multiply surge power by 2/3.

Figure 5. Maximum Surge Power

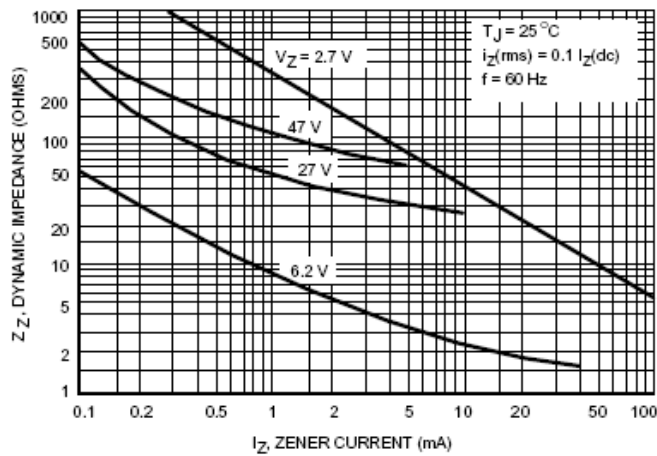


Figure 6. Effect of Zener Current
on Zener Impedance

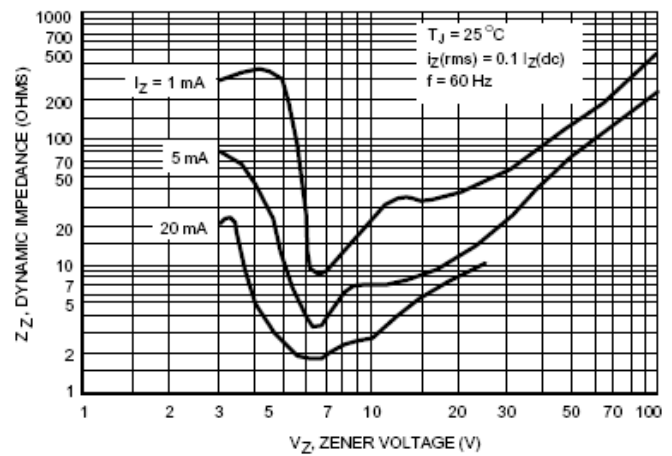


Figure 7. Effect of Zener Voltage
on Zener Impedance

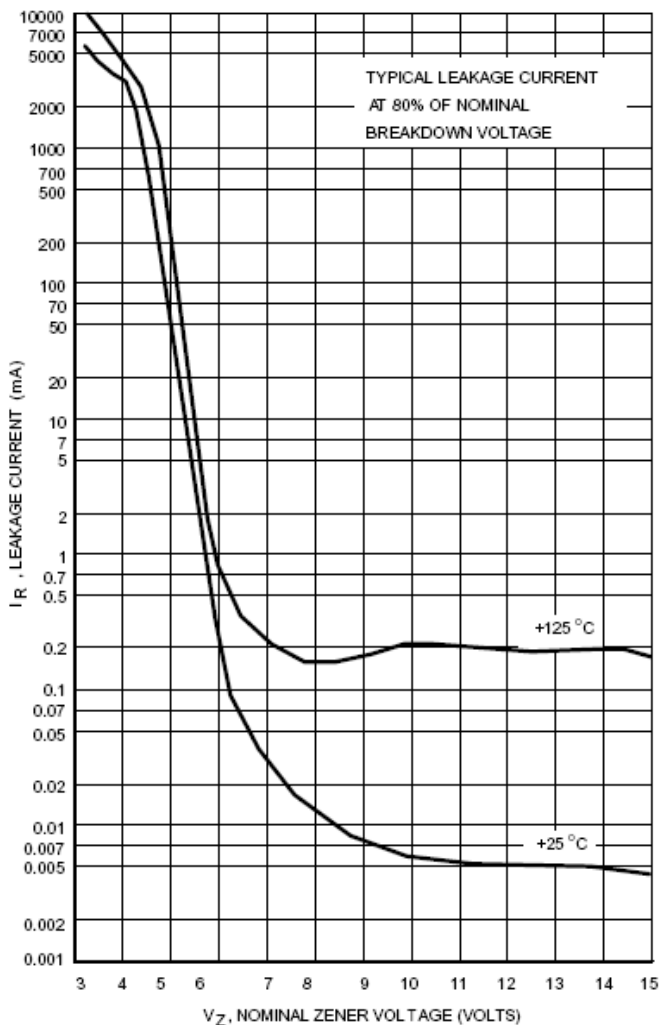


Figure 8. Typical Leakage Current

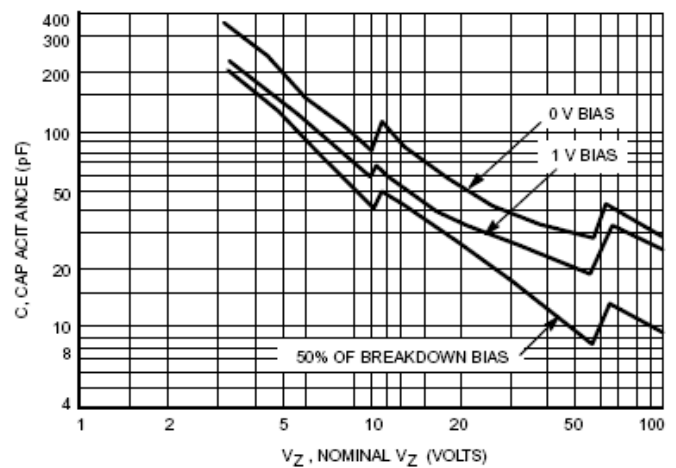


Figure 9. Typical Capacitance versus V_Z

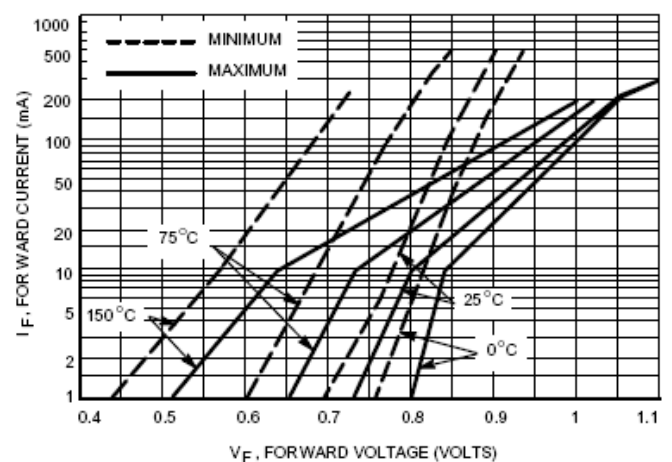


Figure 10. Typical Forward Characteristics

APPLICATION NOTE

Since the actual voltage available from a given zener diode is temperature dependent, it is necessary to determine junction temperature under any set of operating conditions in order to calculate its value. The following procedure is recommended:

Lead Temperature, T_L , should be determined from:

$$T_L = \theta_{LA} P_D + T_A.$$

θ_{LA} is the lead-to-ambient thermal resistance ($^{\circ}\text{C}/\text{W}$) and P_D is the power dissipation. The value for θ_{LA} will vary and depends on the device mounting method. θ_{LA} is generally 30 to $40^{\circ}\text{C}/\text{W}$ for the various clips and tie points in common use and for printed circuit board wiring.

The temperature of the lead can also be measured using a thermocouple placed on the lead as close as possible to the tie point. The thermal mass connected to the tie point is normally large enough so that it will not significantly respond to heat surges generated in the diode as a result of pulsed operation once steady-state conditions are achieved. Using the measured value of T_L , the junction temperature may be determined by:

$$T_J = T_L + \Delta T_{JL}.$$

ΔT_{JL} is the increase in junction temperature above the lead temperature and may be found as follows:

$$\Delta T_{JL} = \theta_{JL} P_D.$$

θ_{JL} may be determined from Figure 3 for dc power conditions. For worst-case design, using expected limits of I_Z , limits of P_D and the extremes of $T_J(\Delta T_J)$ may be estimated. Changes in voltage, V_Z , can then be found from:

$$\Delta V = \theta_{VZ} \Delta T_J.$$

θ_{VZ} , the zener voltage temperature coefficient, is found from Figure 2.

Under high power-pulse operation, the zener voltage will vary with time and may also be affected significantly by the zener resistance. For best regulation, keep current excursions as low as possible.

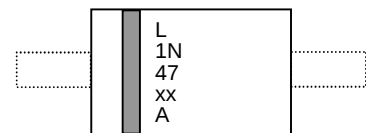
Surge limitations are given in Figure 5. They are lower than would be expected by considering only junction temperature, as current crowding effects cause temperatures to be extremely high in small spots, resulting in device degradation should the limits of Figure 5 be exceeded.

1 Watt DO-41 Hermetically Sealed Glass Zener Voltage Regulators



Maximum Ratings

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤50°C, Lead Length = 3/8"	P _D	1	W
Derate Above 50°C		6.67	mW/°C
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to +200	°C



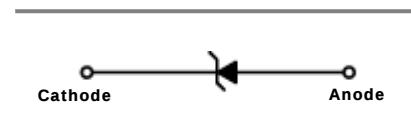
L = Logo
1N47xxA = Device Code

Specification Features:

- § Zener Voltage Range = 3.3V to 75V
- § ESD Rating of Class 3 (>6 KV) per Human Body Model
- § DO-41 Package (DO-204AL)
- § Double Slug Type Construction
- § Former Metallurgical Bonded Construction
- § Oxide Passivated Die
- § RoHS Compliant and Halogen Free
- § Solder Hot Dip Tin (Sn) Lead Finish

Specification Features:

Case : Double slug type, hermetically sealed glass
Finish : All external surfaces are corrosion resistant and leads are readily solderable
Polarity : Cathode indicated by polarity band
Mounting: Any



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Device (Note 1.)	Device Marking	Zener Voltage (Note 2 & 3.)				Zener Impedance (Note 4.)			Leakage Current	
		V_Z (Volts)			$@I_{ZT}$	$Z_{ZT} @I_{ZT}$	$Z_{ZK} @I_{ZK}$		$I_R @ V_R$	
		Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(μA Max)	(Volts)
1N4728A	1N4728A	3.135	3.3	3.465	76	10	400	1	100	1
1N4729A	1N4729A	3.420	3.6	3.780	69	10	400	1	100	1
1N4730A	1N4730A	3.705	3.9	4.095	64	9	400	1	50	1
1N4731A	1N4731A	4.085	4.3	4.515	58	9	400	1	10	1
1N4732A	1N4732A	4.465	4.7	4.935	53	8	500	1	10	1
1N4733A	1N4733A	4.845	5.1	5.355	49	7	550	1	10	1
1N4734A	1N4734A	5.320	5.6	5.880	45	5	600	1	10	2
1N4735A	1N4735A	5.890	6.2	6.510	41	2	700	1	10	3
1N4736A	1N4736A	6.460	6.8	7.140	37	3.5	700	1	10	4
1N4737A	1N4737A	7.125	7.5	7.875	34	4	700	0.5	10	5
1N4738A	1N4738A	7.790	8.2	8.610	31	4.5	700	0.5	10	6
1N4739A	1N4739A	8.645	9.1	9.555	28	5	700	0.5	10	7
1N4740A	1N4740A	9.500	10	10.50	25	7	700	0.25	10	7.6
1N4741A	1N4741A	10.45	11	11.55	23	8	700	0.25	5	8.4
1N4742A	1N4742A	11.40	12	12.60	21	9	700	0.25	5	9.1
1N4743A	1N4743A	12.35	13	13.65	19	10	700	0.25	5	9.9
1N4744A	1N4744A	14.25	15	15.75	17	14	700	0.25	5	11.4
1N4745A	1N4745A	15.20	16	16.80	15.5	16	700	0.25	5	12.2
1N4746A	1N4746A	17.10	18	18.90	14	20	750	0.25	5	13.7
1N4747A	1N4747A	19.00	20	21.00	12.5	22	750	0.25	5	15.2
1N4748A	1N4748A	20.90	22	23.10	11.5	23	750	0.25	5	16.7
1N4749A	1N4749A	22.80	24	25.20	10.5	25	750	0.25	5	18.2
1N4750A	1N4750A	25.65	27	28.35	9.5	35	750	0.25	5	20.6
1N4751A	1N4751A	28.50	30	31.50	8.5	40	1000	0.25	5	22.8
1N4752A	1N4752A	31.35	33	34.65	7.5	45	1000	0.25	5	25.1
1N4753A	1N4753A	34.20	36	37.80	7	50	1000	0.25	5	27.4
1N4754A	1N4754A	37.05	39	40.95	6.5	60	1000	0.25	5	29.7
1N4755A	1N4755A	40.85	43	45.15	6	70	1500	0.25	5	32.7
1N4756A	1N4756A	44.65	47	49.35	5.5	80	1500	0.25	5	35.8
1N4757A	1N4757A	48.45	51	53.55	5	95	1500	0.25	5	38.8
1N4758A	1N4758A	53.20	56	58.80	4.5	110	2000	0.25	5	42.6
1N4759A	1N4759A	58.90	62	65.10	4	125	2000	0.25	5	47.1
1N4760A	1N4760A	64.60	68	71.40	3.7	150	2000	0.25	5	51.7
1N4761A	1N4761A	71.25	75	78.75	3.3	175	2000	0.25	5	56.0

$V_F = 1.2\text{V}$ Max $@I_F = 200\text{mA}$ for 30V below types, $V_F = 2.0\text{V}$ Max $@I_F = 200\text{mA}$ for 30–56V types, and $V_F = 3.0\text{V}$ Max $@I_F = 200\text{mA}$ for 60V above types

1. TOLERANCE AND TYPE NUMBER DESIGNATION (V_Z)

The type numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.

2. SPECIALS AVAILABLE INCLUDE

Nominal zener voltages between the voltages shown and tighter voltage, for detailed information on price, availability and delivery, contact you nearest Tak Cheong representative.

3. ZENER VOLTAGE (V_Z) MEASUREMENT

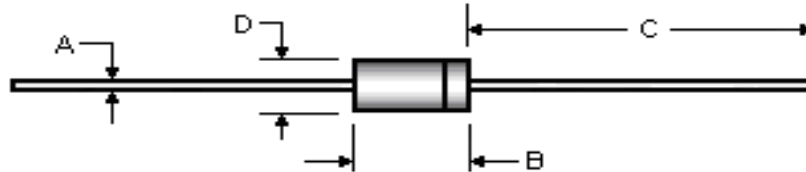
The zener voltage (V_Z) is tested under pulse condition. The measured V_Z is guaranteed to be within specification with device junction in thermal equilibrium.

4. ZENER IMPEDANCE (Z_z) DERIVATION

The zener impedance is derived from the 60 cycle AC voltage, which results when an AC current having an RMS value equal to 10% of the DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} .

Package Outline

Case Outline



DIM	DO-41			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.68	0.81	0.027	0.032
B	3.70	4.25	0.146	0.167
C	25.40	---	1.000	---
D	2.10	2.60	0.083	0.102

500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤75°C, Lead Length = 3/8"	P _D	500	mW
Derate Above 75°C		4.0	mW/°C
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to +200	°C

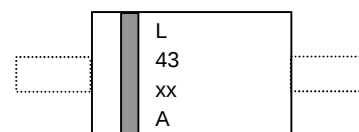
Note 1: Some part number series have lower JEDEC registered ratings.

Specification Features:

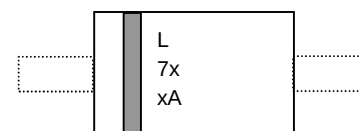
- § Zener Voltage Range = 2.4V to 12V
- § ESD Rating of Class 3 (>6 KV) per Human Body Model
- § DO-35 Package (DO-204AH)
- § Double Slug Type Construction
- § Former Metallurgical Bonded Construction
- § RoHS Compliant
- § Solder Hot Dip Tin (Sn) Lead Finish

Specification Features:

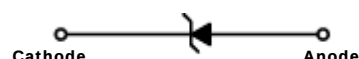
- Case** : Double slug type, hermetically sealed glass
- Finish** : All external surfaces are corrosion resistant and leads are readily solderable
- Polarity** : Cathode indicated by polarity band
- Mounting**: Any



L = Logo
43xxA = 1N43xxA Device Code



L = Logo
7xxA = 1N7xxA Device Code



ELECTRICAL CHARACTERIZATION ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Device (Note 2.)	Device Marking	Zener Voltage (Note 3.)				Zener Impedance Z _{ZT} @I _{ZT} (Note 4.)	IR @VR = 1V		I _{ZM} (Note 5.)
		V _Z (Volts)			@I _{ZT}		T _{amb} 25°C	T _{amb} 125°C	
		Min	Nom	Max	(mA)		(Ω)	(uA)	
1N750A	1N750A	4.47	4.7	4.94	20	19	2	30	75
1N751A	1N751A	4.85	5.1	5.36	20	17	1	20	70
1N752A	1N752A	5.32	5.6	5.88	20	11	1	20	65
1N753A	1N753A	5.89	6.2	6.51	20	7	0.1	20	60
1N754A	1N754A	6.46	6.8	7.14	20	5	0.1	20	55
1N755A	1N755A	7.13	7.5	7.88	20	6	0.1	20	50
1N756A	1N756A	7.79	8.2	8.61	20	8	0.1	20	45
1N757A	1N757A	8.65	9.1	9.56	20	10	0.1	20	40
1N758A	1N758A	9.50	10	10.5	20	17	0.1	20	35
1N759A	1N759A	11.4	12	12.6	20	30	0.1	20	30

VF Forward Voltage = 1.5V max @ $I_F = 200\text{mA}$ for all types

2. TOLERANCE AND VOLTAGE DESIGNATION

The type numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.

3. ZENER VOLTAGE (V_Z) MEASUREMENT

The zener voltage (V_Z) is tested under pulse condition. The measured V_Z is guaranteed to be within specification with device junction in thermal equilibrium.

4. ZENER IMPEDANCE (Z_Z) DERIVATION

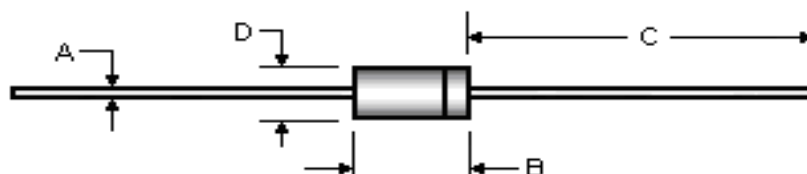
Z_{ZT} is measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for $I_{Z(AC)} = 0.1 I_{Z(DC)}$ with AC frequency = 60Hz.

5. MAXIMUM ZENER CURRENT RATINGS (I_{ZM})

Values shown are based on the JEDEC rating of 400mW where the actual zener voltage (V_Z) is known at the operation point, the zener current may be increased and is limited by the derating curve.

Package Outline

Case Outline



DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.56	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.52	2.29	0.060	0.090

Note: all dimensions are within JEDEC standard.

500 mW DO-35 Hermetically Sealed Glass Zener Voltage Regulators



Maximum Ratings (Note 1)

Rating	Symbol	Value	Units
Maximum Steady State Power Dissipation @TL≤75°C, Lead Length = 3/8"	P _D	500	mW
Derate Above 75°C		4.0	mW/°C
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to +200	°C

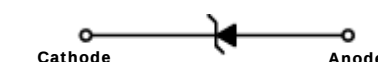
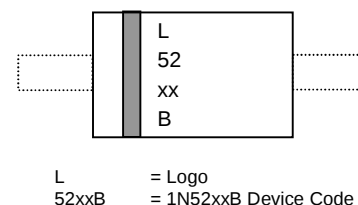
Note 1: Some part number series have lower JEDEC registered ratings.

Specification Features:

- § Zener Voltage Range = 2.4V to 75V
- § ESD Rating of Class 3 (>6 KV) per Human Body Model
- § DO-35 Package (DO-204AH)
- § Double Slug Type Construction
- § Former Metallurgical Bonded Construction
- § RoHS Compliant and Halogen Free
- § Solder Hot Dip Tin (Sn) Lead Finish

Specification Features:

- Case** : Double slug type, hermetically sealed glass
- Finish** : All external surfaces are corrosion resistant and leads are readily solderable
- Polarity** : Cathode indicated by polarity band
- Mounting**: Any



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Device (Note 2.)	Device Marking	Zener Voltage (Note 3.)				Zener Impedance (Note 4.)			Leakage Current		θ _{VZ} (Note 5.)
		V _Z (Volts)			@I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _R @ V _R			
		Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(uA Max)	(Volts)	(%/°C)
1N5221B	1N5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1	-0.085
1N5222B	1N5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1	-0.085
1N5223B	1N5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1	-0.080
1N5224B	1N5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1	-0.080
1N5225B	1N5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1	-0.075
1N5226B	1N5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1	-0.070
1N5227B	1N5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1	-0.065
1N5228B	1N5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1	-0.060
1N5229B	1N5229B	4.085	4.3	4.515	20	22	2000	0.25	5	1	±0.055
1N5230B	1N5230B	4.465	4.7	4.935	20	19	1900	0.25	5	2	±0.030
1N5231B	1N5231B	4.845	5.1	5.355	20	17	1600	0.25	5	2	±0.030
1N5232B	1N5232B	5.320	5.6	5.880	20	11	1600	0.25	5	3	+0.038
1N5233B	1N5233B	5.700	6.0	6.300	20	7	1600	0.25	5	3.5	+0.038
1N5234B	1N5234B	5.890	6.2	6.510	20	7	1000	0.25	5	4	+0.045
1N5235B	1N5235B	6.460	6.8	7.140	20	5	750	0.25	3	5	+0.050
1N5236B	1N5236B	7.125	7.5	7.875	20	6	500	0.25	3	6	+0.058
1N5237B	1N5237B	7.790	8.2	8.610	20	8	500	0.25	3	6.5	+0.062
1N5238B	1N5238B	8.265	8.7	9.135	20	8	600	0.25	3	6.5	+0.065
1N5239B	1N5239B	8.645	9.1	9.555	20	10	600	0.25	3	7	+0.068
1N5240B	1N5240B	9.500	10	10.500	20	17	600	0.25	3	8	+0.075
1N5241B	1N5241B	10.45	11	11.55	20	22	600	0.25	2	8.4	+0.076
1N5242B	1N5242B	11.40	12	12.60	20	30	600	0.25	1	9.1	+0.077
1N5243B	1N5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079
1N5244B	1N5244B	13.30	14	14.70	9	15	600	0.25	0.1	10	+0.082
1N5245B	1N5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082
1N5246B	1N5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083
1N5247B	1N5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084
1N5248B	1N5248B	17.10	18	18.90	7	21	600	0.25	0.1	14	+0.085
1N5249B	1N5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086
1N5250B	1N5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086
1N5251B	1N5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087
1N5252B	1N5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088
1N5253B	1N5253B	23.75	25	26.25	5	35	600	0.25	0.1	19	+0.089
1N5254B	1N5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090
1N5255B	1N5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091
1N5256B	1N5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091
1N5257B	1N5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092
1N5258B	1N5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093
1N5259B	1N5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094
1N5260B	1N5260B	40.85	43	45.15	3.0	93	800	0.25	0.1	33	+0.095

$V_F = 1.1\text{V}$ Max $@I_F = 200\text{mA}$ for 30V below types, $V_F = 2.0\text{V}$ Max $@I_F = 200\text{mA}$ for 30~56V types, $V_F = 3.0\text{V}$ Max $@I_F = 200\text{mA}$ for 60V above types

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Device (Note 1.)	Device Marking	Zener Voltage (Note 2.)				Zener Impedance (Note 3.)			Leakage Current		θ_{V_Z} (Note 4.)
		V_Z (Volts)			$@I_{ZT}$	$Z_{ZT} @I_{ZT}$	$Z_{ZK} @I_{ZK}$	$I_R @ V_R$			
		Min	Nom	Max	(mA)	(Ω)	(Ω)	(mA)	(μ A Max)	(Volts)	(mA)
1N5261B	1N5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095
1N5262B	1N5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	+0.096
1N5263B	1N5263B	53.20	56	58.80	2.2	150	1300	0.25	0.1	43	+0.096
1N5264B	1N5264B	57.00	60	63.00	2.1	170	1400	0.25	0.1	46	+0.097
1N5265B	1N5265B	58.90	62	65.10	2.0	185	1400	0.25	0.1	47	+0.097
1N5266B	1N5266B	64.60	68	71.40	1.8	230	1600	0.25	0.1	52	+0.097
1N5267B	1N5267B	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	+0.098

$V_F = 1.1\text{V}$ Max @ $I_F = 200\text{mA}$ for 30V below types, $V_F = 2.0\text{V}$ Max @ $I_F = 200\text{mA}$ for 30~56V types, $V_F = 3.0\text{V}$ Max @ $I_F = 200\text{mA}$ for 60V above types

2. TOLERANCE AND TYPE NUMBER DESIGNATION (V_Z)

The type numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.

3. ZENER VOLTAGE (V_Z) MEASUREMENT

The zener voltage (V_Z) is tested under pulse condition. The measured V_Z is guaranteed to be within specification with device junction in thermal equilibrium.

4. ZENER IMPEDANCE (Z_Z) DERIVATION

Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for $I_{Z(AC)} = 0.1 I_{Z(PC)}$ with AC frequency = 60Hz.

5. TEMPERATURE COEFFICIENT (θ_{V_Z})

Test conditions for temperature coefficient are as follows:

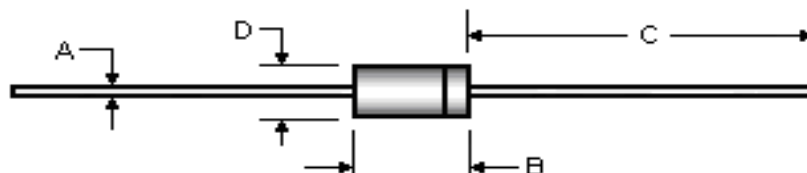
A. $I_{ZT} = 7.5\text{mA}$, $T_1 = 25^\circ\text{C}$, $T_2 = 125^\circ\text{C}$ (1N5221B through 1N5242B)

B. $I_{ZT} = \text{Rated } I_{ZT}$, $T_1 = 25^\circ\text{C}$, $T_2 = 125^\circ\text{C}$ (1N5243B through 1N5267B)

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

Package Outline

Case Outline



DIM	DO-35			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.56	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.52	2.29	0.060	0.090

Note: all dimensions are within JEDEC standard.