



Micro Commercial Components



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**1N4614  
THRU  
1N4125**

**Features**

- Zener Voltage Range = 1.8V to 47V
- Double Slug Type Construction
- Metallurgical Bonded Construction
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Moisture Sensitivity: Level 1

**500mW Silicon  
Zener Diodes**

**Mechanical Data**

- Case: Double slug type, hermetically sealed glass
- Marking : Cathode band and type number

**Maximum Ratings**

	Symbol	Value	Units
Max. Steady State Power Dissipation at $T_L < 75^\circ\text{C}$ , Lead Length=3/8"	$P_D$	500	mW
Junction Temperature	$T_J$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to 175	$^\circ\text{C}$
Thermal Resistance, Junction to lead @3/8" lead length from body	$R_{thJL}$	250	$^\circ\text{C/W}$

DO-35

DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	---	.166	---	4.2	
B	---	.079	---	2.00	
C	---	.020	---	.52	
D	1.000	---	25.40	---	

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

	Symbol	Maximum	Unit
Max. Forward Voltage @ $I_F=200\text{mA}$	$V_F$	1.1	V

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.

# 1N4614 thru 1N4125



## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted, V<sub>F</sub> = 1.1 V Max @ I<sub>F</sub> = 200mA for all types)

Device <sup>(1)</sup>	Device Marking	Zener Voltage <sup>(2)</sup>			Maximum Zener Current <sup>(3)</sup> (I <sub>ZM</sub> )	Reverse Leakage Current <sup>(4)</sup>		Zener Impedance <sup>(5)</sup>
		V <sub>Z</sub> (Volts) @ I <sub>ZT</sub> =250UA				IR@VR		Z <sub>ZT</sub> @I <sub>ZT</sub>
		Min	Nom	Max	mA	µA( Max)	Volts	ohm(Max)
1N4614	1N4614	1.71	1.8	1.89	120	7.5	1	1200
1N4615	1N4615	1.90	2.0	2.10	110	5.0	1	1250
1N4616	1N4616	2.09	2.2	2.31	100	4.0	1	1300
1N4617	1N4617	2.28	2.4	2.52	95	2.0	1	1400
1N4618	1N4618	2.565	2.7	2.835	90	1.0	1	1500
1N4619	1N4619	2.85	3.0	3.15	87	0.8	1	1600
1N4620	1N4620	3.135	3.3	3.465	85	7.5	1.5	1650
1N4621	1N4621	3.42	3.6	3.78	83	7.5	2	1700
1N4622	1N4622	3.705	3.9	4.095	80	5.0	2	1650
1N4623	1N4623	4.085	4.3	4.515	77	4.0	2	1600
1N4624	1N4624	4.465	4.7	4.935	75	10.0	3	1550
1N4625	1N4625	4.845	5.1	5.355	70	10.0	3	1500
1N4626	1N4626	5.32	5.6	5.88	65	10.0	4	1400
1N4627	1N4627	5.89	6.2	6.51	61	10.0	5	1200
1N4099	1N4099	6.46	6.8	7.14	56	10.0	5.17	200
1N4100	1N4100	7.125	7.5	7.875	51	10.0	5.70	200
1N4101	1N4101	7.79	8.2	8.61	46	1.0	6.24	200
1N4102	1N4102	8.265	8.7	9.135	44	1.0	6.61	200
1N4103	1N4103	8.645	9.1	9.555	42	1.0	6.92	200
1N4104	1N4104	9.5	10	10.5	38	1.0	7.60	200
1N4105	1N4105	10.45	11	11.55	35	.05	8.44	200
1N4106	1N4106	11.4	12	12.6	32	.05	8.12	200
1N4107	1N4107	12.35	13	13.65	29	.05	9.857	200
1N4108	1N4108	13.3	14	14.7	27	.05	10.65	200
1N4109	1N4109	14.25	15	15.75	25	.05	11.40	100
1N4110	1N4110	15.2	16	16.8	24	.05	12.15	100
1N4111	1N4111	16.15	17	17.85	22	.05	12.92	100
1N4112	1N4112	17.1	18	18.9	21	.05	13.67	100
1N4113	1N4113	18.05	19	19.95	20	.05	14.44	150
1N4114	1N4114	19	20	21	19	.01	15.20	150
1N4115	1N4115	20.9	22	23.1	17	.01	16.72	150
1N4116	1N4116	22.8	24	25.2	16	.01	18.25	150
1N4117	1N4117	23.75	25	26.25	15	.01	19.00	150
1N4118	1N4118	25.65	27	28.35	14	.01	20.45	150
1N4119	1N4119	26.6	28	29.4	14	.01	21.28	200
1N4120	1N4120	28.5	30	31.5	13	.01	22.80	200
1N4121	1N4121	31.35	33	34.65	12	.01	25.08	200
1N4122	1N4122	34.2	36	37.8	11	.01	27.38	200
1N4123	1N4123	37.05	39	40.95	9.8	.01	29.65	200
1N4124	1N4124	40.85	43	45.15	8.9	.01	32.65	250
1N4125	1N4125	44.65	47	49.35	8.1	.01	35.75	250

### NOTES: 1. TOLERANCE AND TYPE NUMBER DESIGNATION (V<sub>Z</sub>)

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

**2. ZENER VOLTAGE (V<sub>Z</sub>) MEASUREMENT** Nominal zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T<sub>L</sub>) at 30°C ±1°C and 3/8" lead length.

**3. MAXIMUM ZENER CURRENT RATINGS (I<sub>ZM</sub>)** This data was calculated using nominal voltages. The maximum handling current capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.

**4. Reverse Leakage Current (IR)** reverse leakage current are guaranteed and measured at V<sub>R</sub> shown on the table.

**5. Zener Impedance (Z<sub>ZT</sub>) Derivation** The Zener impedance is derived from the 60 cycle ac voltage, which results when an Ac current having an rms value to 10% of the DC zener current (I<sub>ZT</sub>) is superimposed on I<sub>ZT</sub>.

# 1N4614 thru 1N4125

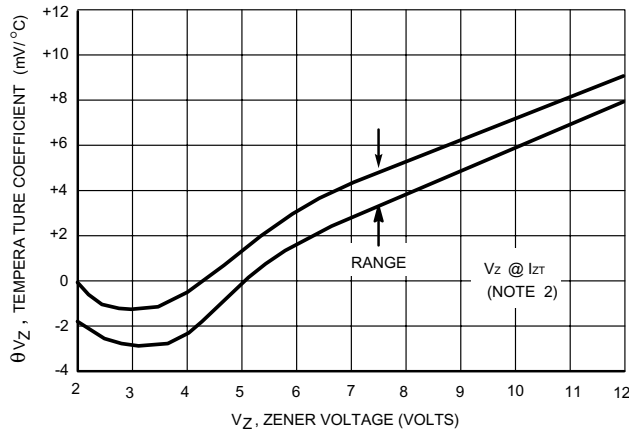


Figure 1. Range for Units to 12 Volts

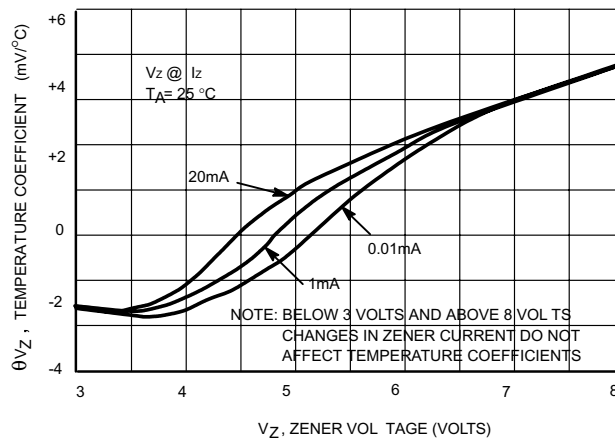


Figure 2. Effect of Zener Current

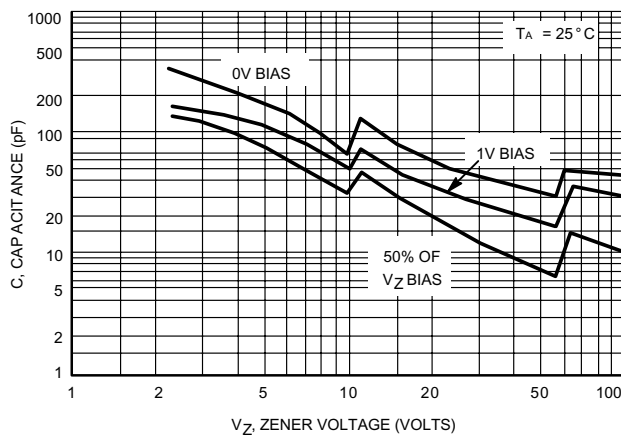


Figure 3. Typical Capacitance 2.4-100 Volts

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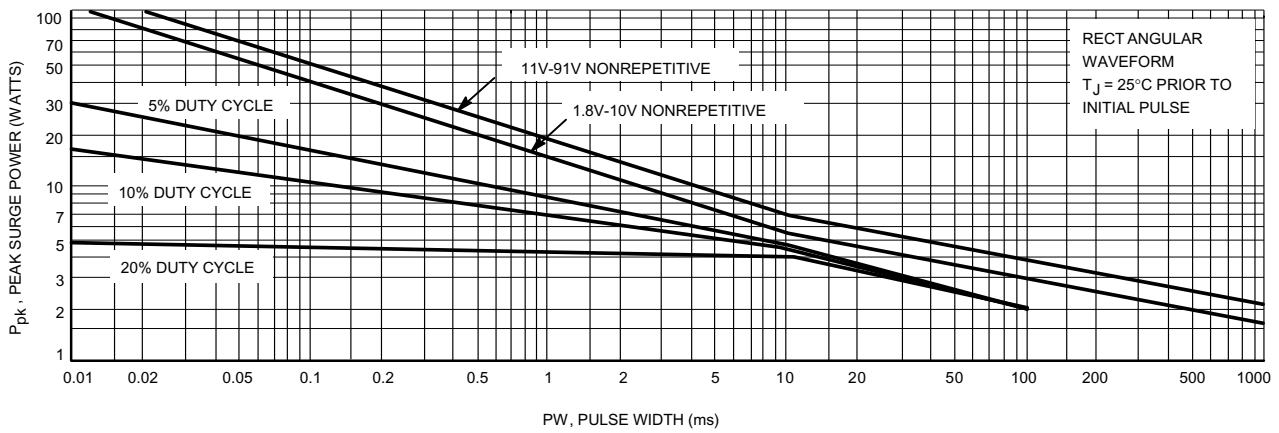


Figure 4. Maximum Surge Power 1.8-91 Volts

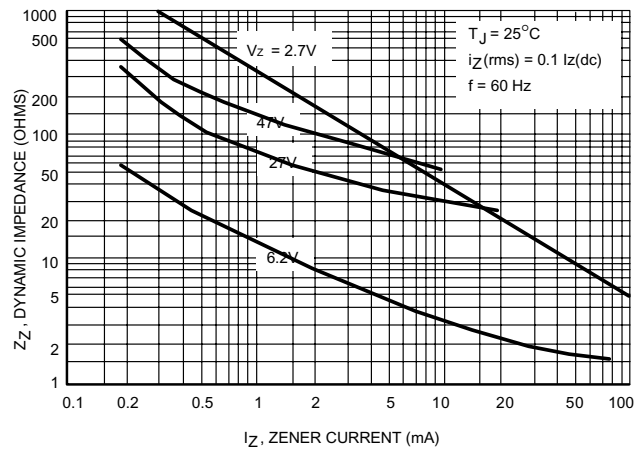


Figure 5. Effect of Zener Current on Zener Impedance

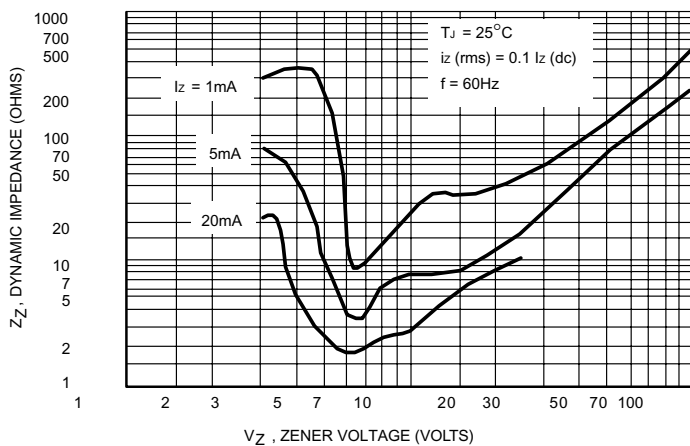


Figure 6. Effect of Zener Voltage on Zener Impedance

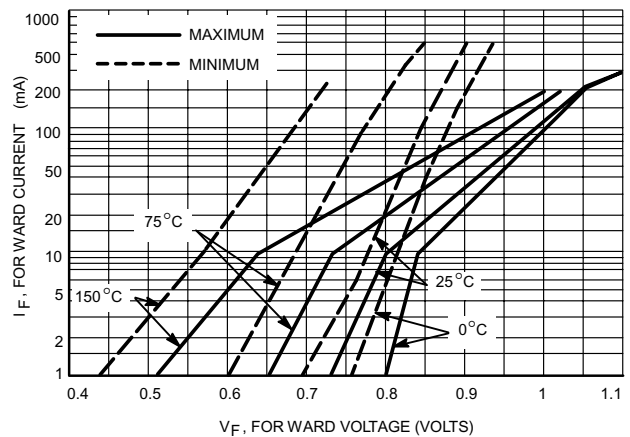


Figure 7. Typical Forward Characteristics



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### Ordering Information :

Part Number-TP	Tape&Reel: 10Kpcs/Reel
Part Number-AP	Ammo Packing: 5Kpcs/Ammo Box
Part Number-BP	Bulk: 100Kpcs/Carton

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