

**TECHNICAL DATA**  
**DATA SHEET 4239, Rev-**

## Zener 1.5W DIODE

SENSITRON's Power Semiconductor Products have been used in space, military and high-rel applications for more than 30 years. Our 1.5W silicon, low leakage, voltage regulator diodes are available in both leaded axial and surface mount melf packaging. We also supply 1.5W Zener die products.

### Applications / Markets:

- ▼ Voltage regulation and voltage limiting
- ▼ Voltage regulation over a broad operating range
- ▼ Low power protection
- ▼ Analog Circuits
- ▼ High-Rel Industrial
- ▼ Military
- ▼ Aerospace
- ▼ Space/satellites

### Features / Benefits:

- ▼ Ultra-low reverse leakage current
- ▼ Sharp Zener knee
- ▼ Zener voltage available from 36V to 160V
- ▼ Hermetic, non-cavity glass package
- ▼ Metallurgically bonded
- ▼ Extensive line of QPL Products
- ▼ Screening to TX/TXV/S level
- ▼ Tape & reel available

Electrical characteristics – Temperature 25°C unless otherwise noted

Part #	V <sub>z</sub> Nom	V <sub>z</sub> Min	V <sub>z</sub> Max	I <sub>z</sub> test current	Z <sub>z</sub> impedance	Z <sub>k</sub> Knee impedance	I <sub>z</sub> Max dc current	Voltage regulation	I <sub>zsm</sub>	Reverse Voltage	IR Reverse Current Dc Ir1	$\alpha$ VZ Temp coeffi cient	IZK Test current	IR <sub>2</sub> Reverse current*
1N4478	36	34.2	37.8	7.0	27	850	40	1.7	.40	28.8	.05	0.093	0.25	2
1N4479	39	37.1	40.9	6.5	30	900	37	1.8	.37	31.2	.05	0.094	0.25	2
1N4480	43	40.9	45.1	6.0	40	950	33	1.9	.33	34.4	.05	0.095	0.25	2
1N4481	47	44.7	49.3	5.5	50	1000	30	2.1	.30	37.6	.05	0.095	0.25	2
1N4482	51	48.5	53.5	5.0	60	1100	28	2.3	.28	40.8	.05	0.096	0.25	2
1N4483	56	53.2	58.8	4.5	70	1300	26	2.5	.26	44.8	.25	0.096	0.25	10
1N4484	62	58.9	65.1	4.0	80	1500	23	2.7	.23	49.6	.25	0.097	0.25	10
1N4485	68	64.6	71.4	3.7	100	1700	21	3.0	.21	54.4	.25	0.097	0.25	10
1N4486	75	71.3	78.8	3.3	130	2000	19	3.3	.19	60.0	.25	0.098	0.25	10
1N4487	82	77.9	86.1	3.0	160	2500	17	3.6	.17	65.6	.25	0.098	0.25	10
1N4488	91	86.5	95.5	2.8	200	3000	16	4.0	.16	72.8	.25	0.099	0.25	10
1N4489	100	95.0	105.0	2.5	250	3100	14	4.4	.14	80.0	.25	0.100	0.25	10
1N4490	110	104.5	115.5	2.3	300	4000	13	5.0	.13	88.0	.25	0.100	0.25	10
1N4491	120	114.0	126.0	2.0	400	4500	12	5.5	.12	96.0	.25	0.100	0.25	10
1N4492	130	123.5	136.5	1.9	500	5000	11	6.0	.11	104	.25	0.100	0.25	10
1N4493	150	142.5	157.5	1.7	700	6000	9.5	7.0	.095	120	.25	0.100	0.25	10
1N4494	160	152	168	1.6	1000	6500	8.9	8.0	.089	128	.25	0.100	0.25	10

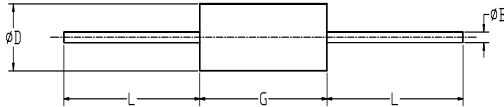
\* Dc TA=+150°C IR2

**1N4478 to 1N4494**  
**1N4478U to 1N4494U**

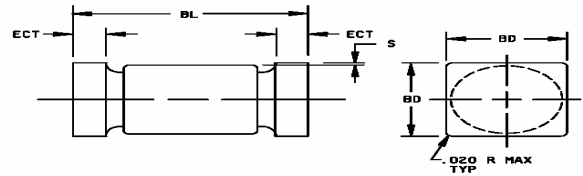
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**Axial**



**Melf**

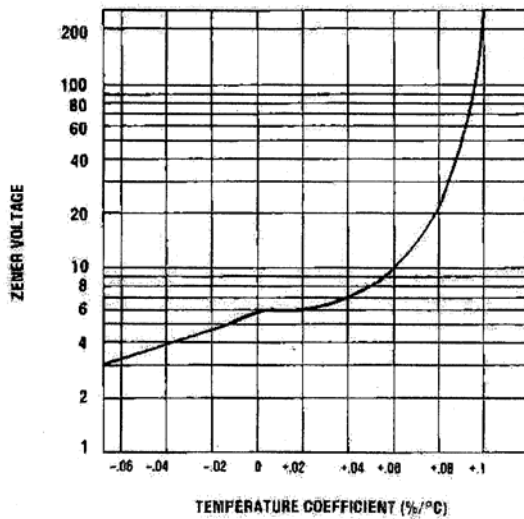


**1N4478 thru 1N4494**

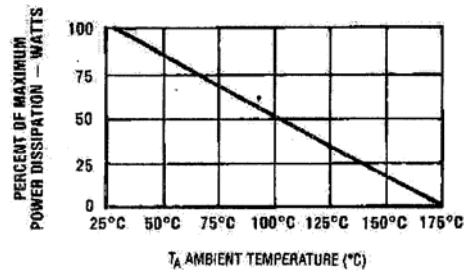
PACKAGE STYLE	DIMENSIONS - INCHES ( MILLIMETERS)			
	$\phi B$	$\phi D$	G	L
Similar to DO-41	.028/.032 0.71/0.81	.060/.085 1.52/2.16	.106/.160 2.69/4.06	.80/1.30 20.32/33.02

**1N4478U thru 1N4494U**

PACKAGE STYLE	DIMENSIONS - INCHES ( MILLIMETERS)			
	BL	BD	S	ECT
	.168/.200 4.28/5.08	.091/.103 2.31/2.62	0.003 Min 0.008min	.019/.028 0.48/0.71



**FIGURE 1**  
**TYPICAL TEMPERATURE**  
**COEFFICIENT CHARACTERISTICS**



**FIGURE 2**  
**POWER TEMPERATURE DERATING CURVE**

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