1N5614 thru 1N5622
S2M thru S0M

Rectifier Diode, up to 1KV, 2A, Standard Recovery

HIGH-RELIABILITY PRODUCTS

Features

- Low Reverse Leakage Current
- Hermetically Sealed Non-cavity Parts
- Good Thermal Shock Resistance
- Low Forward Voltage Drop
- Qualified to MIL-PRF-19500/427, Levels JAN Thru JANS

Quick Reference Data

- V_{RWM} = 200 to1,000 Volts
- I_f = 2.0 A
- t_{rr} = 2.0 µsec

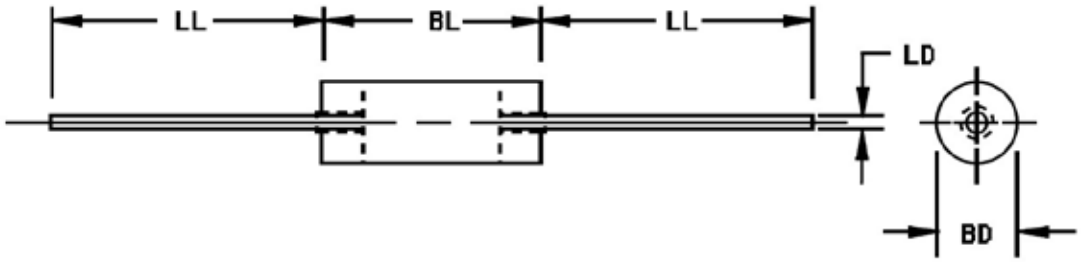
Electrical specifications (Electrical specifications at T=25°C unless otherwise specified)

Part Number	Symbol	1N5614 S2M	1N5616 S4M	1N5618 S6M	1N5620 S8M	1N5622 S0M	Units
Working Reverse Voltage	V_{RWM}	200	400	600	800	1,000	Volts
Repetitive Reverse Voltage	V_{RRM}	200	400	600	800	1,000	Volts
Minimum Breakdown Voltage	V_{BR}	220	440	660	880	1,100	Volts
Maximum Forward Current[1]	$I_{F(AV)}$	2.0					Amps
Maximum Repetitive Surge Current[1]	I_{FRM}	10					Amps
Max Surge Current. tp=8.3msec	I_{FSM}	30					Amps
I^2t for fusing (t=8.3msec)	I^2t	5.0					A^2S
Maximum Reverse Leakage Current at V_{RWM} 25°C 125°C	I_{R1} I_{R2}	0.5 25					µAmps
Maximum Forward Voltage Drop at I_F[2] 1.0A 3.0A	V_F	1.1 1.5					Volts
Storage and Operating Junction Temperatures	T_{STG} , T_J	-65 to +175					°C
Max. Thermal Resistance. L=0.375”	$R_{\theta JL}$	36					°C/W
Maximum Recovery Time[3]	t_{rr}	2.0					µsec
Typical Junction Capacitance[4]	C_j	23					pF

1) @ 55°C, Lead length 0.375”
2) t_p=300µs 2% max. duty cycle
3) Recovery conditions IF=0.5A , IR=1.0A, IRR=0.25A
4) V_r=5.0V, f=1MHz

Outline Drawing

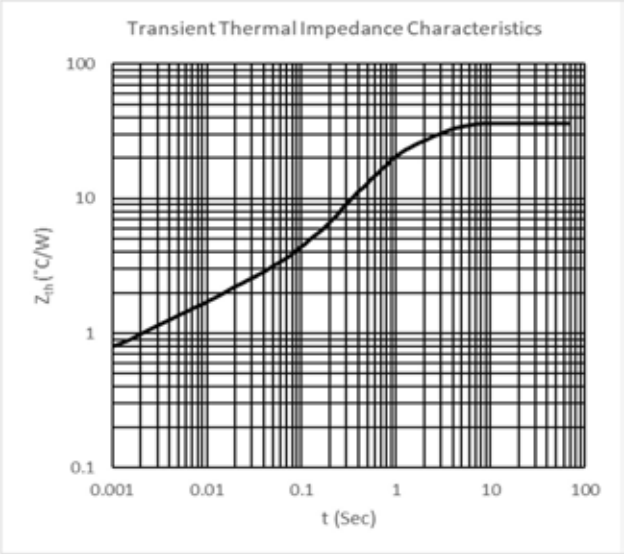
Axial types 1N5614 through 1N5622, S2M through S0M.

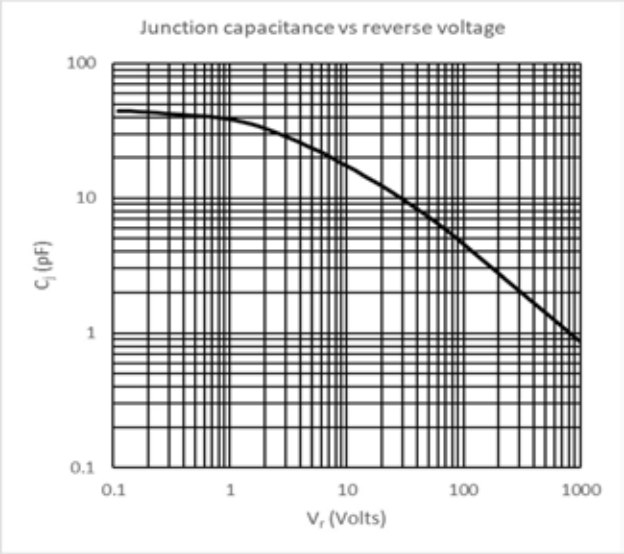


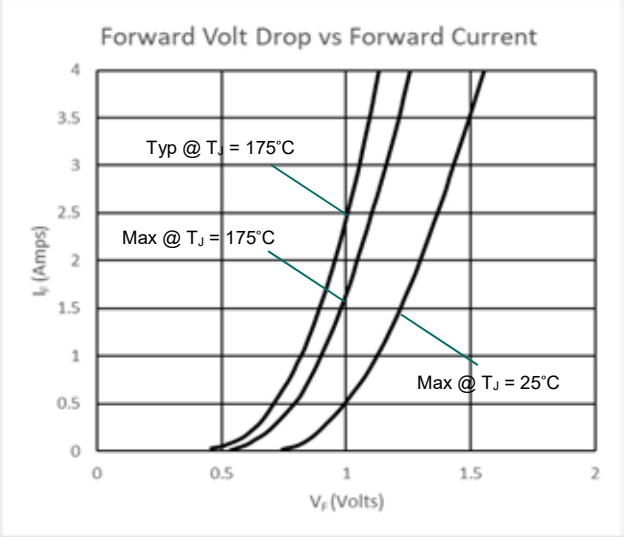
Letter	DIMENSIONS				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	0.065	0.110	1.65	2.79	2
BL	0.130	0.205	3.30	5.21	3
LD	0.026	0.033	0.66	0.84	
LL	1.00	1.50	25.4	38.1	

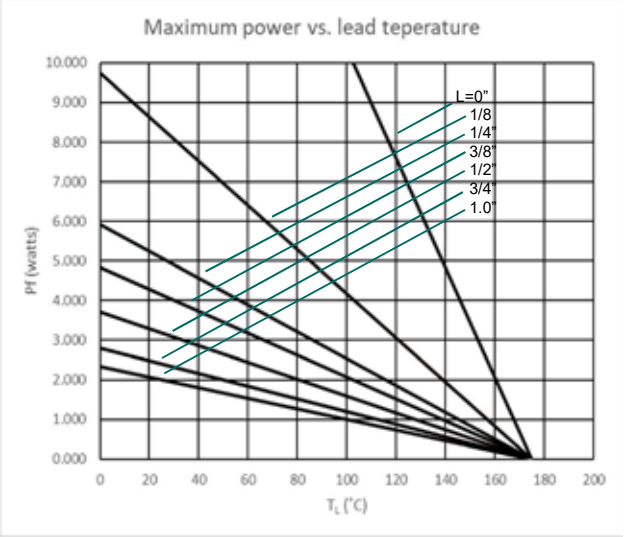
Notes:

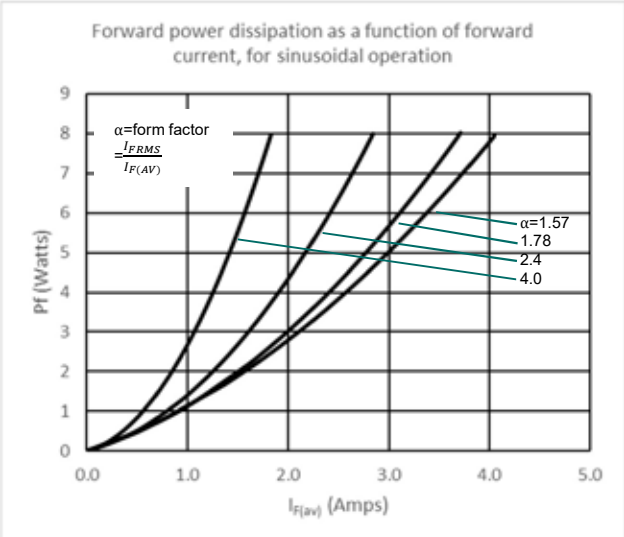
1. Dimensions are in inches. Millimeters are given for general information only
2. Dimension BD shall be measured at the largest diameter
3. The BL dimension shall include the entire body including slugs and sections of the leads over which the diameter is uncontrolled. The uncontrolled area is the zone between the edge of the diode body and extending .050 inch (1.27 mm) onto the leads.
4. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology

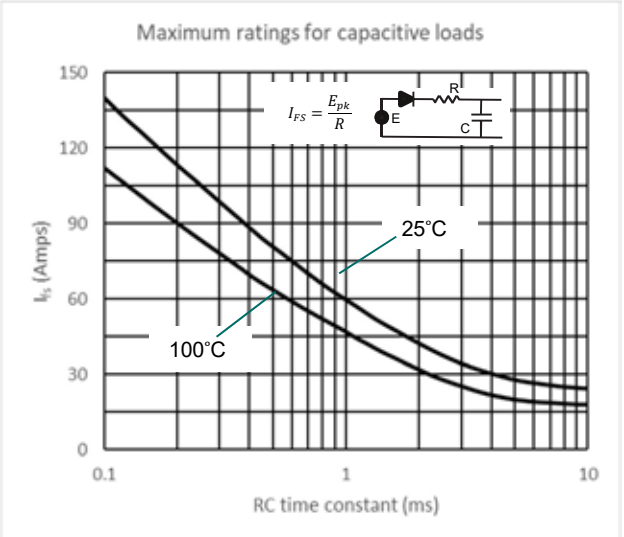

Transient Thermal Impedance Characteristics
100
10
1
0.1
Z_{th} (°C/W)
0.001
0.01
0.1
1
10
100
t (Sec)


Junction capacitance vs reverse voltage
100
10
1
0.1
C_j (pF)
0.1
1
10
100
1000
V_r (Volts)


Forward Volt Drop vs Forward Current
Typ @ T_J = 175°C
Max @ T_J = 175°C
Max @ T_J = 25°C
I_F (Amps)
V_F (Volts)


Maximum power vs. lead teperature
L=0"
1/8"
1/4"
3/8"
1/2"
3/4"
1.0"
Pf (watts)
T_L (°C)


Forward power dissipation as a function of forward current, for sinusoidal operation
α=form factor
$=\frac{I_{FRMS}}{I_{F(AV)}}$
α=1.57
1.78
2.4
4.0
Pf (Watts)
$I_{F(av)}$ (Amps)


Maximum ratings for capacitive loads
$I_{FS} = \frac{E_{pk}}{R}$
R
E
C
25°C
100°C
I_{FS} (Amps)
RC time constant (ms)

Ordering Information

Part Number	Description[1]
1N5614 thru 1N5622 **S2M thru S0M**	**Axial Leaded Part**
1N5614.TR thru 1N5622.TR **S2M.TR thru S0M.TR**	**Tape and Reel Axial Parts**

Notes:
1. Please consult factory for quantities