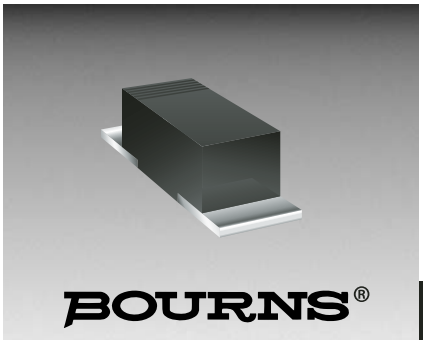


Features

- Low profile package
- Surface mount
- Very low forward voltage drop

Applications

- Cellular phones
- PDAs
- Desktop PCs and notebooks
- Digital cameras
- MP3 players

CD1607-B120 ~ B140L Schottky Barrier Rectifier Chip Diode

General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Schottky Rectifier Diodes for rectification applications, in compact chip package 1607 (Mini-SMA) size format, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 20 V up to 40 V.

Bourns® Chip Diodes conform to JEDEC standards, easy to handle on standard pick and place equipment and their flat configuration makes roll away much more difficult.

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD1607-				Unit
		B120	B120L	B140	B140L	
Forward Voltage (Max.) (I_f = 1 A)	V_F	0.5	0.38	0.5	0.4	V
Typical Junction Capacitance*	C_T	110	100	110	110	pF
Reverse Current (Max.) at Rated V_R)	I_R	0.5	1.0	0.5	1.0	mA

* Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

Absolute Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD1607-				Unit
		B120	B120L	B140	B140L	
Repetitive Peak Reverse Voltage	V_{RRM}	20	20	40	40	V
Reverse Voltage	V_R	20	20	40	40	V
Maximum RMS Voltage	V_{RMS}	14	14	28	28	V
Avg. Forward Current	I_O	1				A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I_{surge}	30*				A
Typical Thermal Resistance**	$R_{\theta JL}$	20				°C/W
Storage Temperature	T_{STG}	-55 to +150				°C
Junction Temperature	T_J	-55 to +125				°C

** Thermal resistance junction to lead.

* Condition: 8.3 ms single half sine-wave superimposed on rate load (JEDEC method).

How To Order

CD 1607 - B 1 20 L

Common Code
Chip Diode

Package
• 1607 = Mini-SMA

Model
B = Schottky Barrier Series

Average Forward Current (I_O) Code
1 = 1 A (Code x 1000 mA = Average Forward Current)

Reverse Voltage (V_R) Code
20 = 20 V
40 = 40 V

Forward Voltage Suffix
L = Low Forward Voltage V_f (CD1607-B120L, CD1607-B140L)

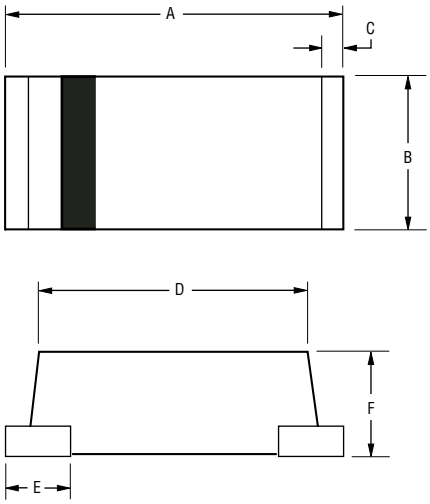
Reliable Electronic Solutions

Asia-Pacific:
Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116
Europe:
Tel: +41-41 768 5555 • Fax: +41-41 768 5510
North America:
Tel: +1-909 781-5500 • Fax: +1-909 781-5700
www.bourns.com

CD1607-B120 ~ B140L Schottky Barrier Rectifier Chip Diode

BOURNS®

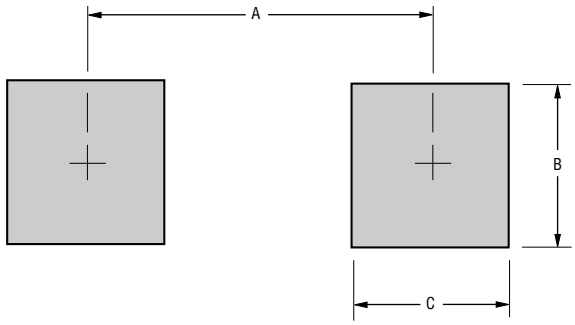
Product Dimensions



Dimension	Mini-SMA
A	3.70 - 4.10 (0.146 - 0.161)
B	1.40 - 1.80 (0.055 - 0.071)
C	0.30 (0.012) TYP.
D	2.40 - 2.80 (0.094 - 0.110)
E	2 PLCS. 0.90 (0.035) TYP.
F	1.40 - 1.60 (0.055 - 0.063)

DIMENSIONS: MM (INCHES)

Recommended Pad Layout



Dimension	Mini-SMA
A (Max.)	3.50 (0.138)
B (Min.)	1.50 (0.059)
C (Min.)	1.50 (0.059)

DIMENSIONS: MM (INCHES)

Physical Specifications

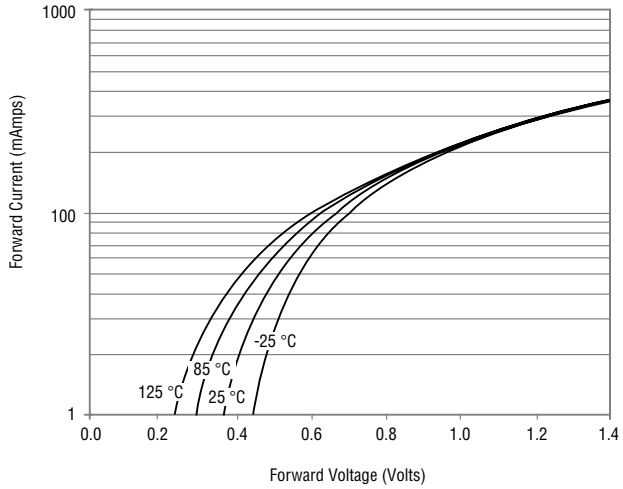
Case.....1607(1401) Molded plastic
Polarity .....Color band denotes cathode end
Terminals.....Solderable per MIL-STD-750, Method 206
Weight .....Approximately 0.04 grams

Typical Part Marking

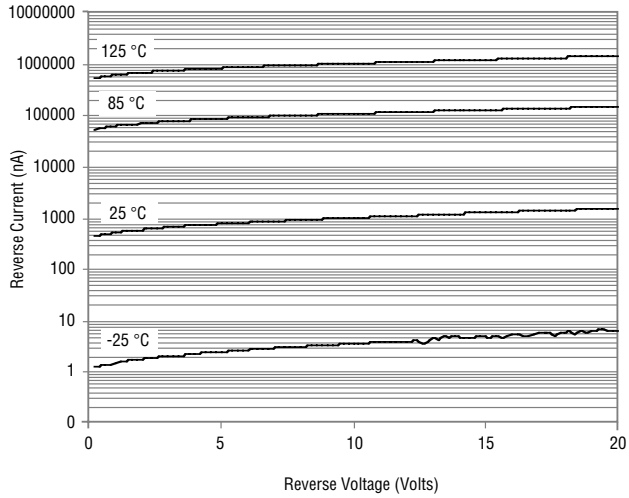
CD1607-B120 .....I2
CD1607-B120L L2
CD1607-B140 .....I4
CD1607-B140L L4

Rating and Characteristic Curves: CD1607-B120

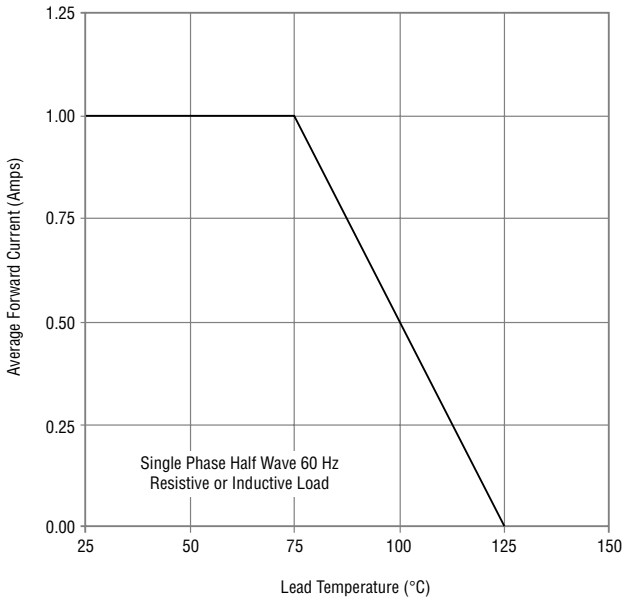
Forward Characteristics



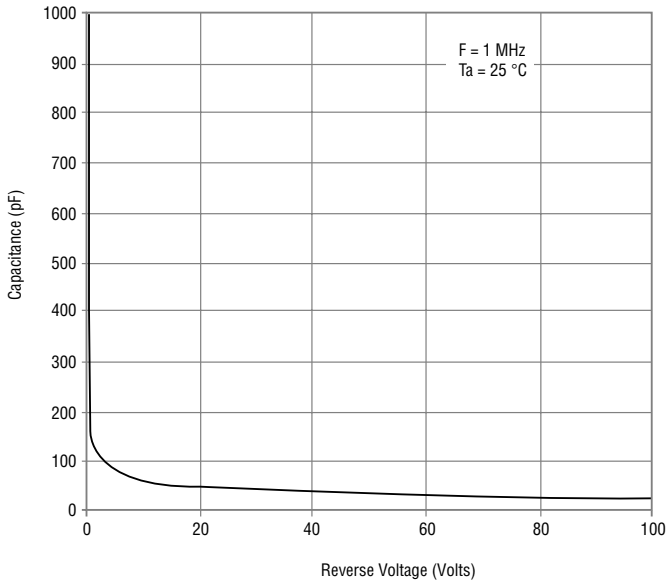
Reverse Characteristics



Derating Curve

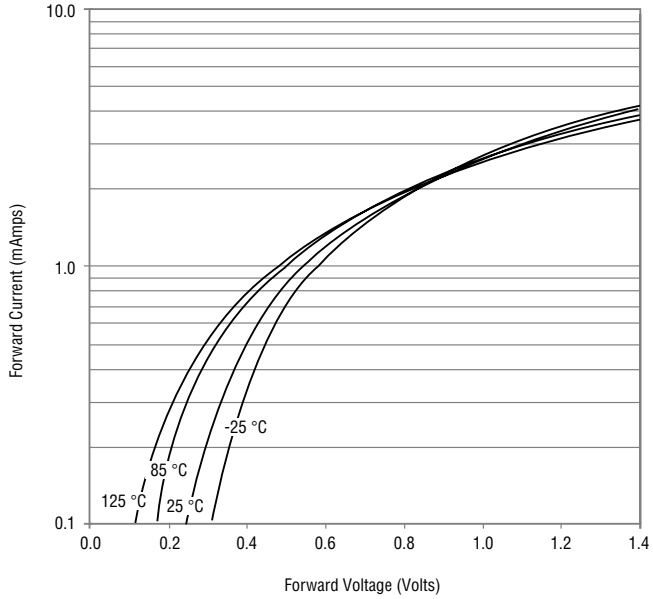


Capacitance Between Terminals

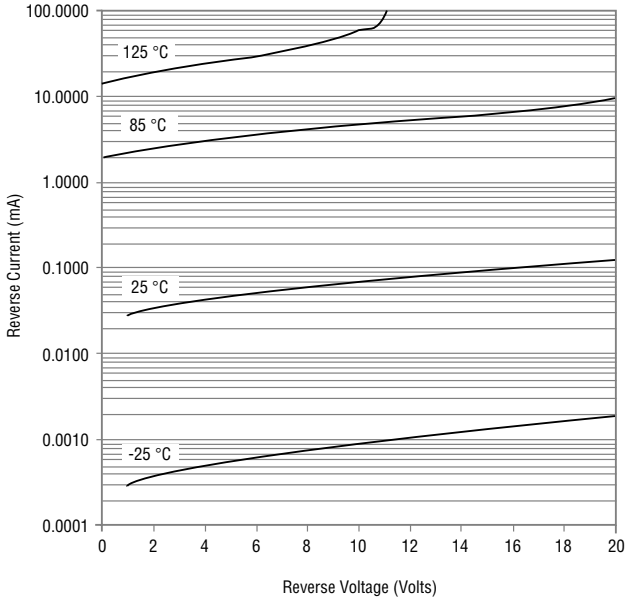


Rating and Characteristic Curves: CD1607-B120L

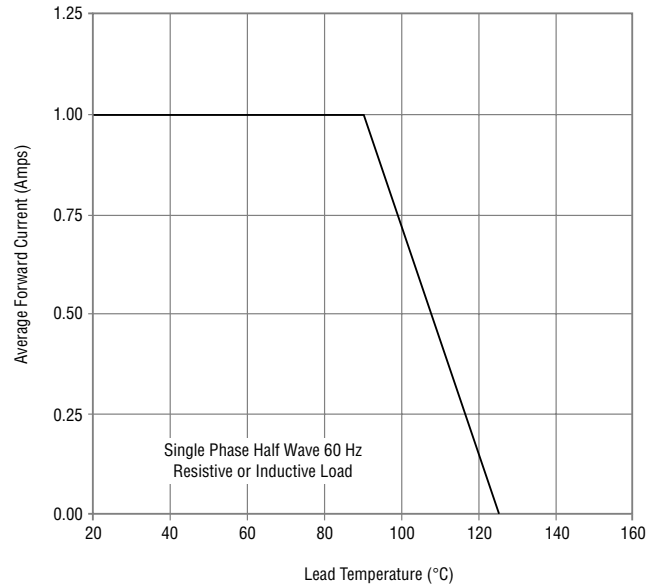
Forward Characteristics



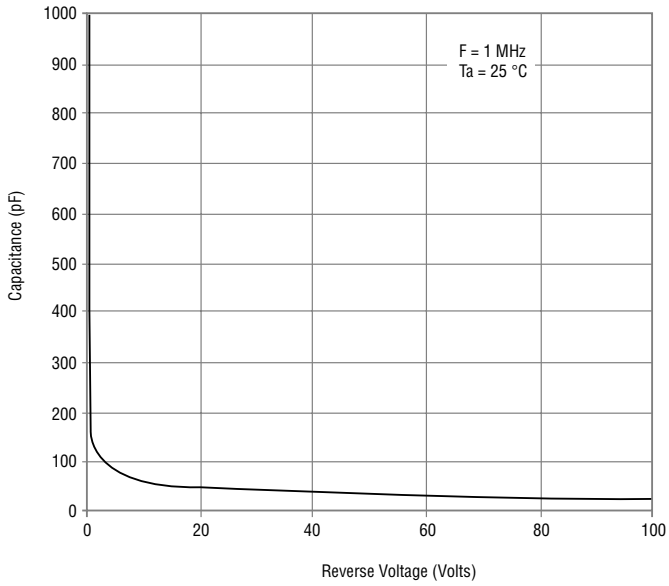
Reverse Characteristics



Derating Curve

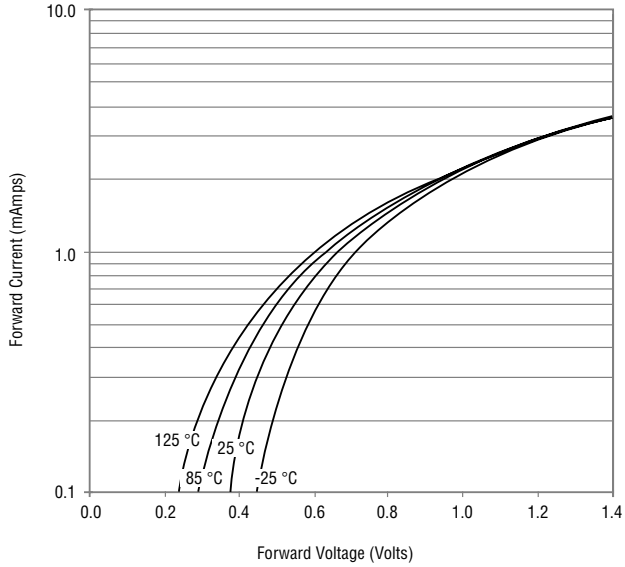


Capacitance Between Terminals

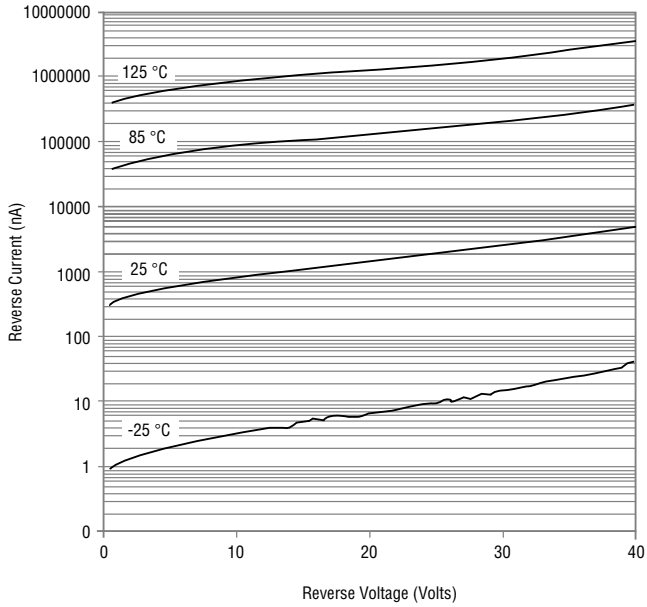


Rating and Characteristic Curves: CD1607-B140

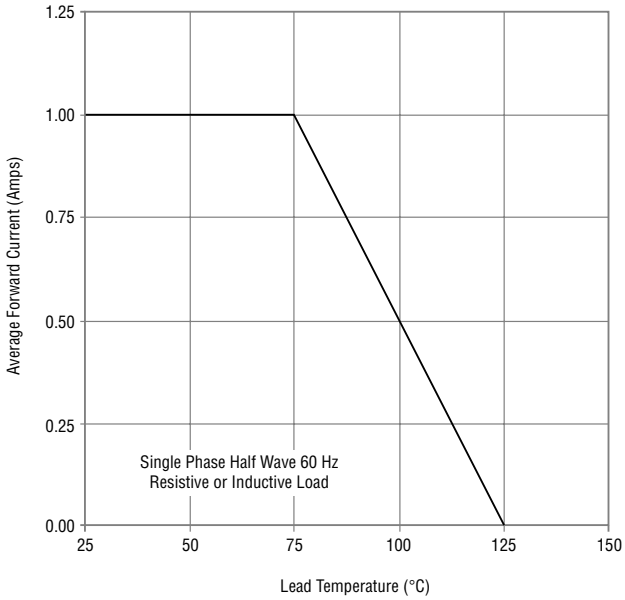
Forward Characteristics



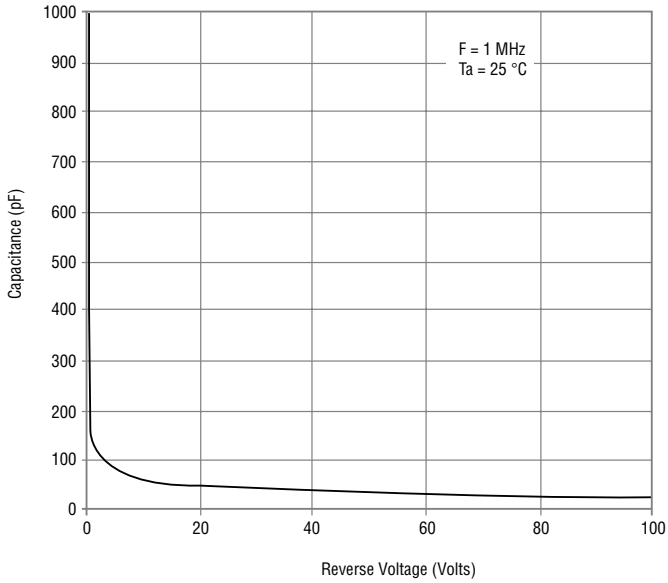
Reverse Characteristics



Derating Curve

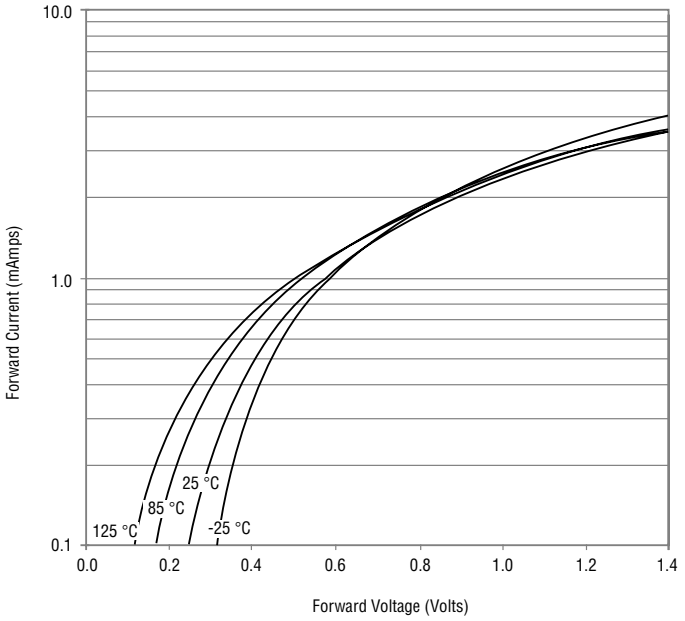


Capacitance Between Terminals

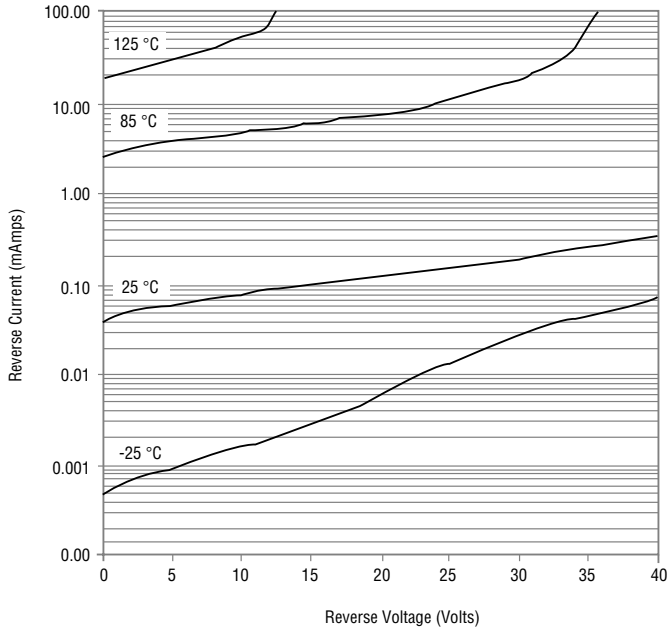


Rating and Characteristic Curves: CD1607-B140L

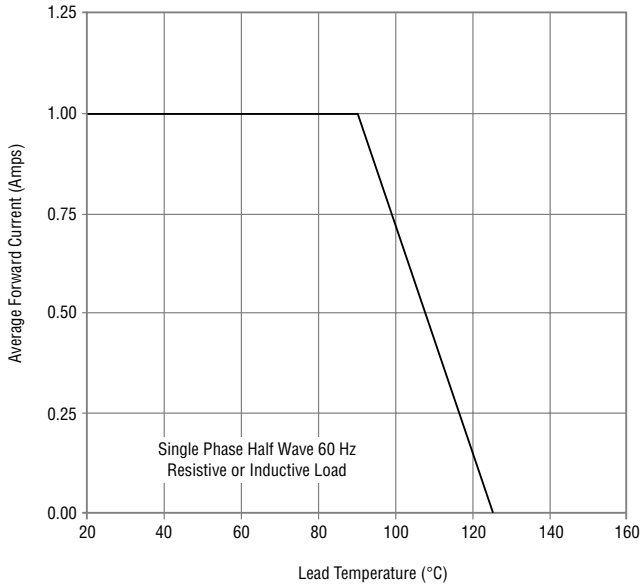
Forward Characteristics



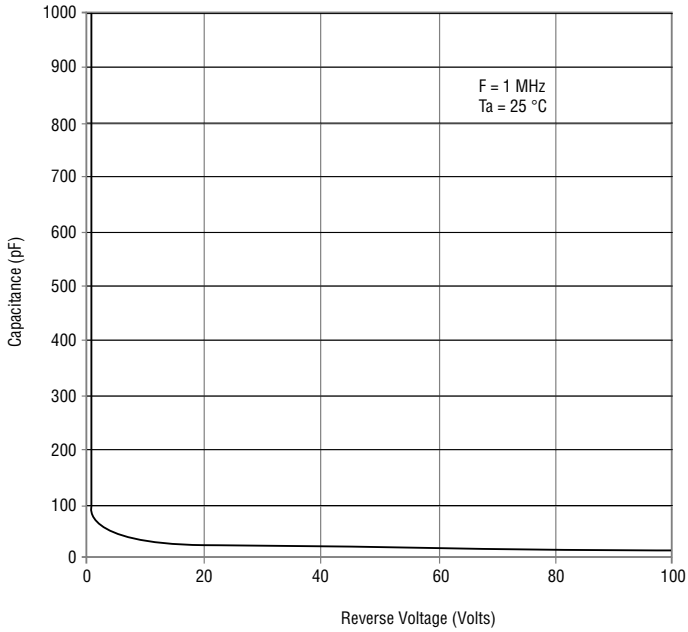
Reverse Characteristics



Derating Curve

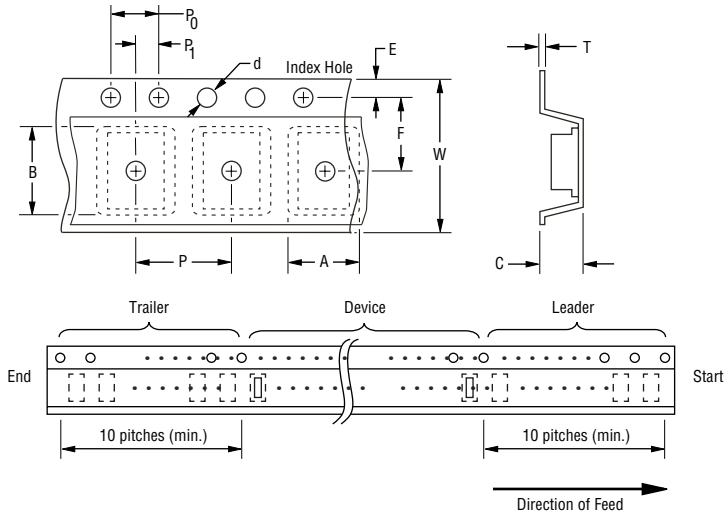


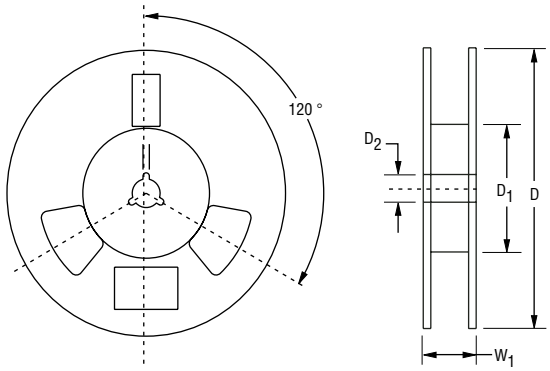
Capacitance Between Terminals



Packaging Information

The product will be dispensed in Tape and Reel format (see diagram below).





DIMENSIONS: MM (INCHES)

Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

Item	Symbol	1607
Carrier Width	A	1.90 ± 0.10 (0.075 - 0.004)
Carrier Length	B	4.30 ± 0.10 (0.169 - 0.004)
Carrier Depth	C	1.80 ± 0.10 (0.071 - 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 - 0.002)
Reel Outside Diameter	D	178 (7.008)
Reel Inner Diameter	D_1	80.0 (3.150) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.20 (0.512 - 0.008)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 - 0.004))
Punch Hole Position	F	3.50 ± 0.05 (0.138 - 0.002)
Punch Hole Pitch	P	4.00 ± 0.10 (0.157 - 0.004)
Sprocket Hole Pitch	P_0	4.00 ± 0.10 (0.157 - 0.004)
Embossment Center	P_1	2.00 ± 0.05 (0.079 - 0.002)
Overall Tape Thickness	T	0.20 ± 0.10 (0.008 - 0.004)
Tape Width	W	8.00 ± 0.20 (0.315 - 0.008)
Reel Width	W_1	13.5 (0.531) MAX.
Quantity per Reel	--	2,500

REV. 12/10/03