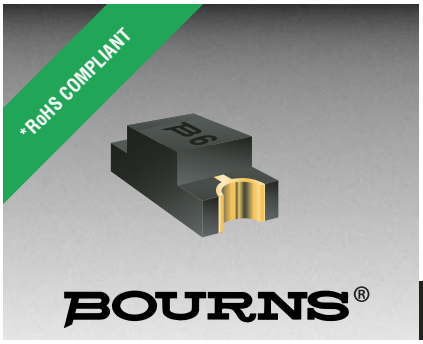


Features

- Lead free as standard
- RoHS compliant*
- Leadless
- Low stored charge

Applications

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

Use CD1005-xxxx products as an alternative.

Schottky Barrier Chip Diode Series - 0805

General Information

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

Bourns offers small-signal high-speed Schottky Barrier Diodes for switching and rectification applications, in compact chip package 0805 size format, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Barrier Diodes offer a forward current of 30 mA, 100 mA or 200 mA, a reverse voltage of 30 V, 40 V or 45V and also have a low forward voltage option. The diodes are lead-free with Cu/Ni/Au plated terminations and are compatible with lead-free manufacturing processes, conforming to many industry and government regulations on lead-free components.

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	CD0805-B00340	CD0805-B0130	CD0805-B0130L	CD0805-B0145	CD0805-B0230	CD0805-B0245	Unit
Forward Voltage (Max.)	V_F	0.37 (I_f = 1 mA)	1.00 (I_f = 0.1 A)	0.44 (I_f = 0.1 A)	0.55 (I_f = 0.1 A)	0.50 (I_f = 0.2 A)	0.55 (I_f = 0.2 A)	V
Capacitance Between Terminals (Max.) (f = 1 MHz)	C_T	2 (V_r = 1 V)	6 (V_r = 10 V)	12 (V_r = 10 V)	6 (V_r = 10 V)	12 (V_r = 10 V)	12 (V_r = 10 V)	pF
Reverse Current (Max.)	I_R	1 (V_r = 40 V)	2 (V_r = 25 V)	30 (V_r = 30 V)	30 (V_r = 45 V)	30 (V_r = 30 V)	30 (V_r = 45 V)	µA

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

Parameter	Symbol	CD0805-B00340	CD0805-B0130	CD0805-B0130L	CD0805-B0145	CD0805-B0230	CD0805-B0245	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	45	30	35	50	35	50	V
Reverse Voltage	V_R	40	30	30	45	30	45	V
Average Forward Current	I_o	30	100	100	100	200	200	mA
Forward Current, Surge Peak	I_{surge}	500*	1000*	1000*	1000*	3000*	3000*	mA
Power Dissipation	PD	200	300	300	300	300	250	mW
Storage Temperature	T_{STG}	-40 to +125						°C
Junction Temperature	T_J	-40 to +125						°C

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

How To Order

CD 0805 - B 01 30 L

Common Code
Chip Diode

Package
• 0805

Model
B = Schottky Barrier Series

Average Forward Current (I_o) Code
003 = 30 mA
01 = 100 mA
02 = 200 mA
(Code x 1000 mA = Average Forward Current)

Reverse Voltage (V_R) Code
30 = 30 V
40 = 40 V
45 = 45 V

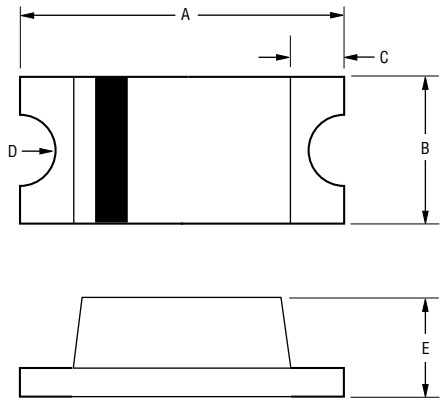
Forward Voltage Suffix
L = Low Forward Voltage V_f (CD0805-B0130L)

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Schottky Barrier Chip Diode Series - 0805

BOURNS®

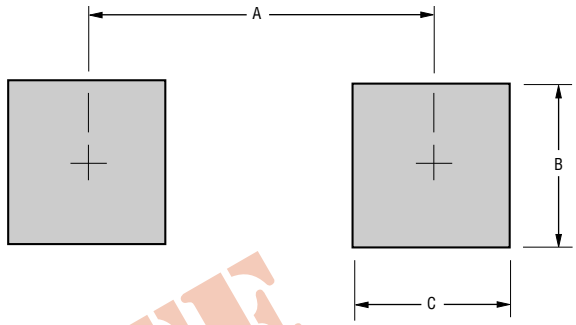
Product Dimensions



Dimension	0805
A	2.00 - 2.20 (0.079 - 0.087)
B	1.20 - 1.40 (0.047 - 0.055)
C	0.40 (0.016) Typ.
D	0.20 (0.008) R Typ.
E	0.90 - 1.10 (0.035 - 0.043)

DIMENSIONS: MM (INCHES)

Recommended Pad Layout



Dimension	0805
A (Max.)	2.10 (0.082)
B (Min.)	1.20 (0.047)
C (Min.)	1.20 (0.047)

DIMENSIONS: MM (INCHES)

Physical Specifications

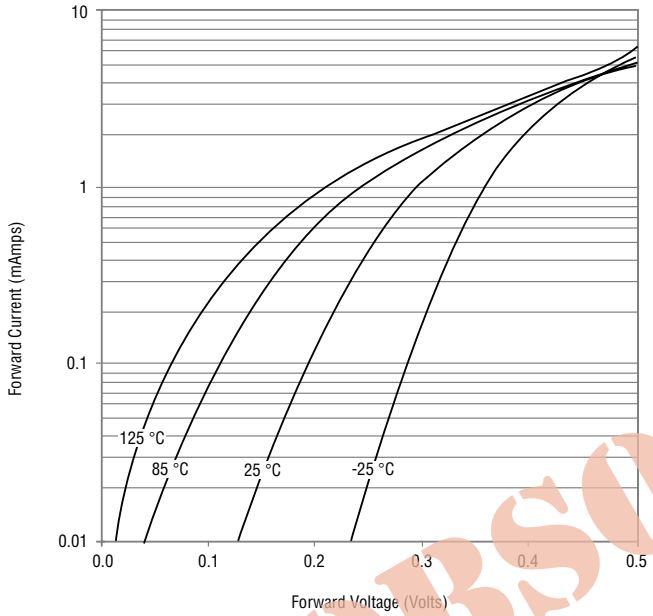
Case.....0805(2012) Molded plastic
Terminals .....Solder plated, solderable per MIL-STD-750, Method 2026
Polarity .....Indicated by cathode band
Mounting Position .....Any
Weight .....0.000159 ounces / 0.0045 grams

Typical Part Marking

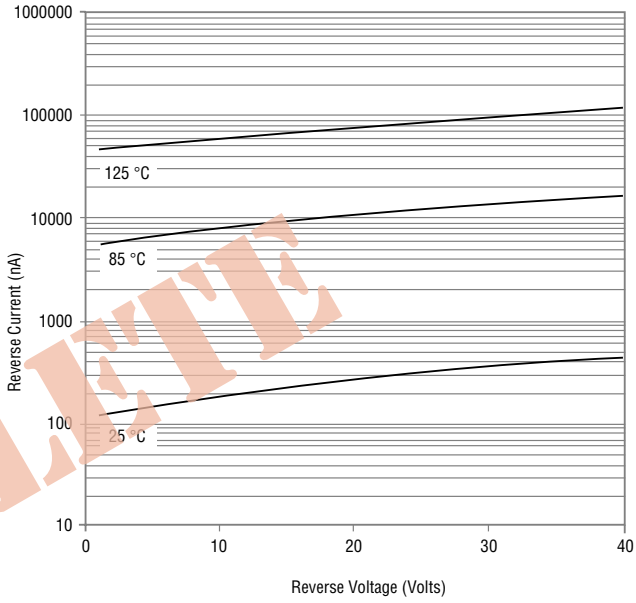
CD0805-B00340.....B2
CD0805-B0130.....B1
CD0805-B0130L.....B3
CD0805-B0145.....B4
CD0805-B0230.....B5
CD0805-B0245.....B6

Rating and Characteristic Curves: CD0805-B00340

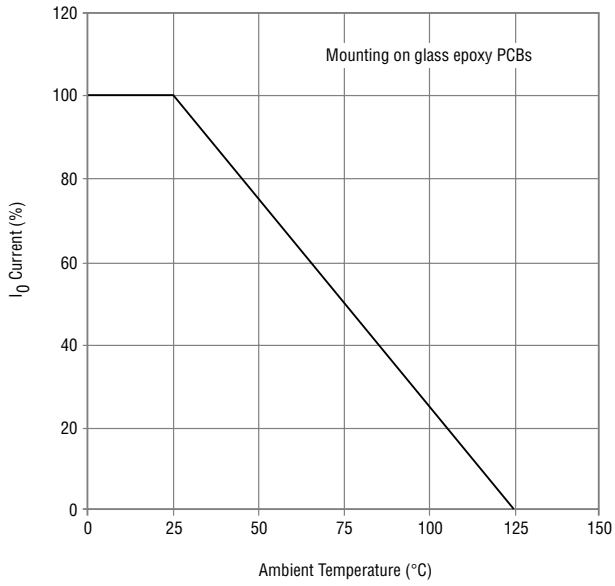
Forward Characteristics



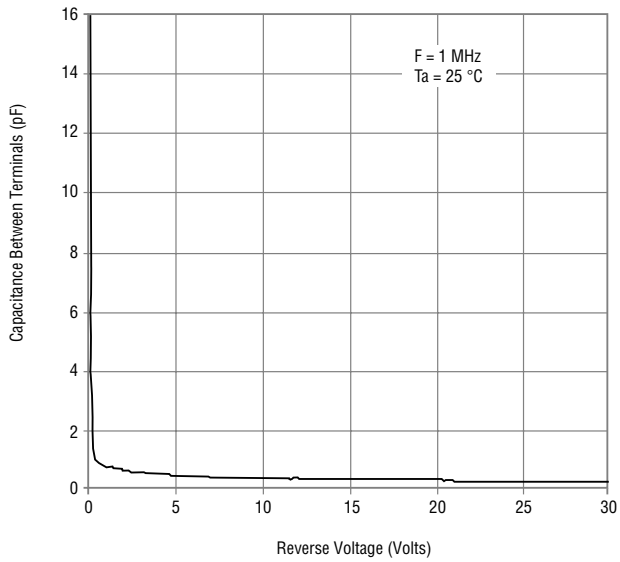
Reverse Characteristics



Derating Curve

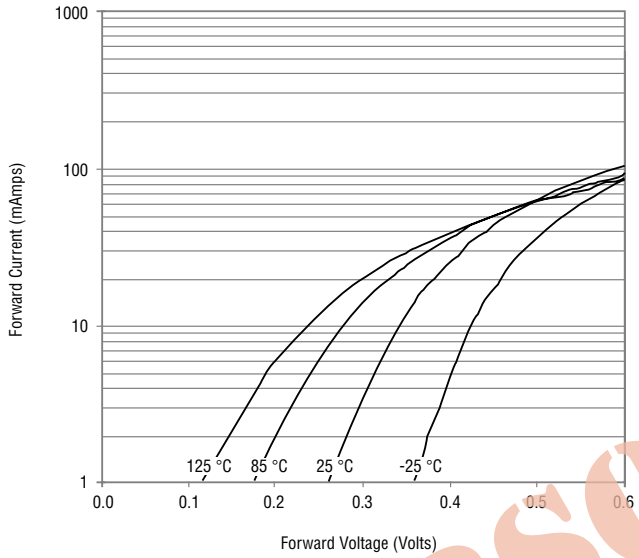


Capacitance Between Terminals

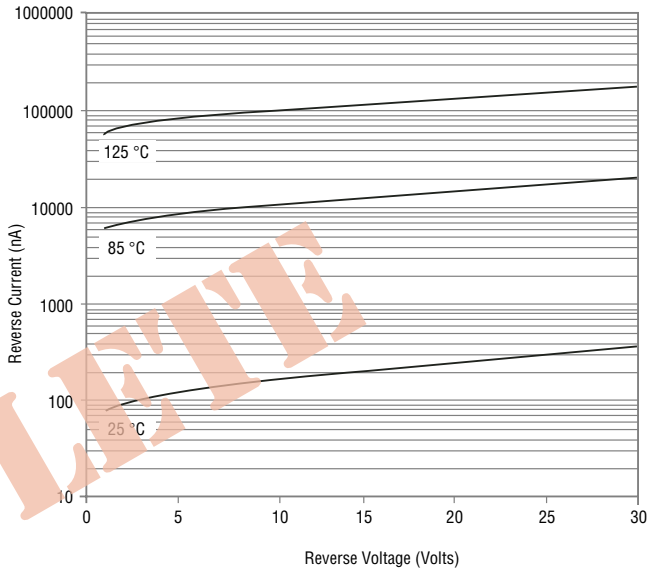


Rating and Characteristic Curves: CD0805-B0130

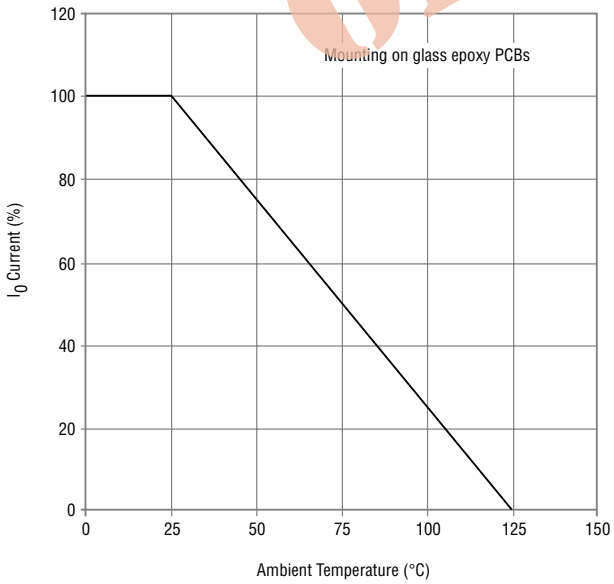
Forward Characteristics



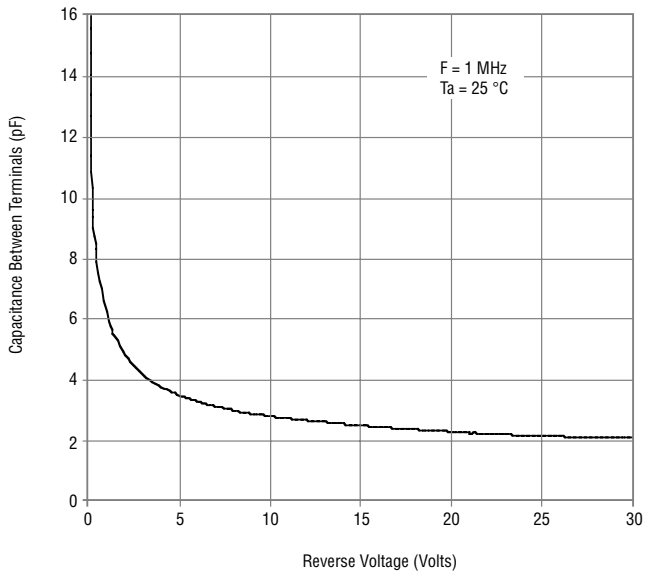
Reverse Characteristics



Derating Curve

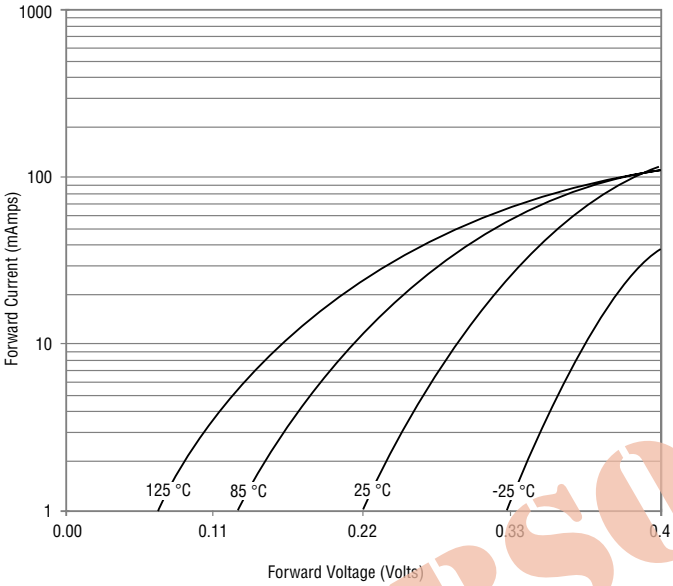


Capacitance Between Terminals

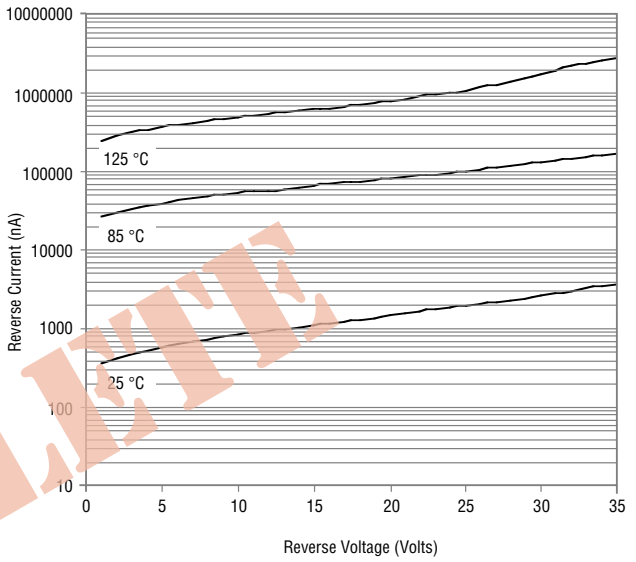


Rating and Characteristic Curves: CD0805-B0130L

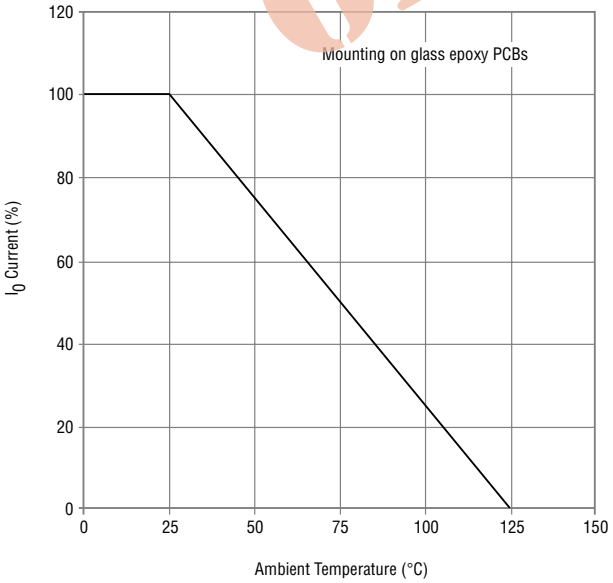
Forward Characteristics



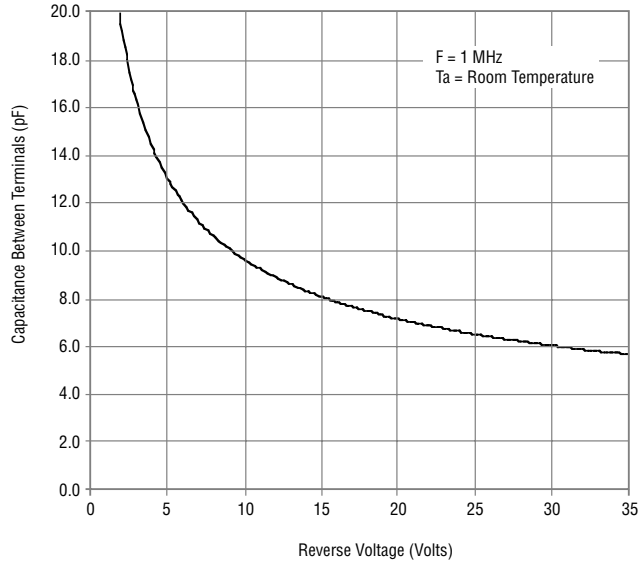
Reverse Characteristics



Derating Curve

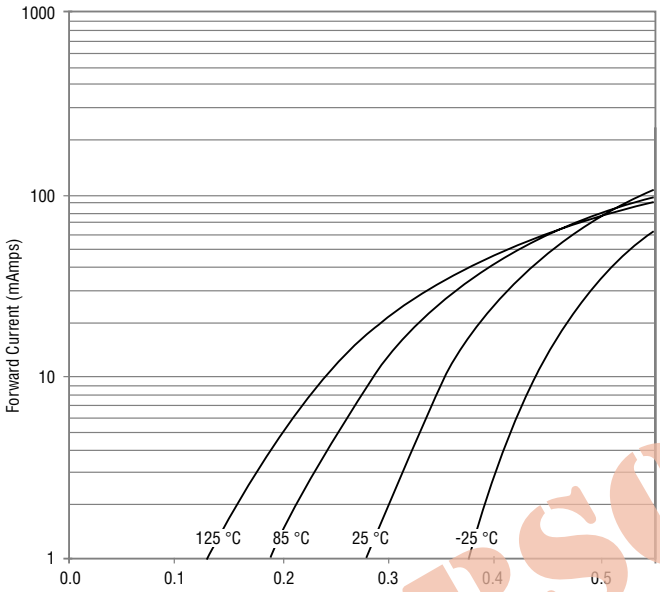


Capacitance Between Terminals

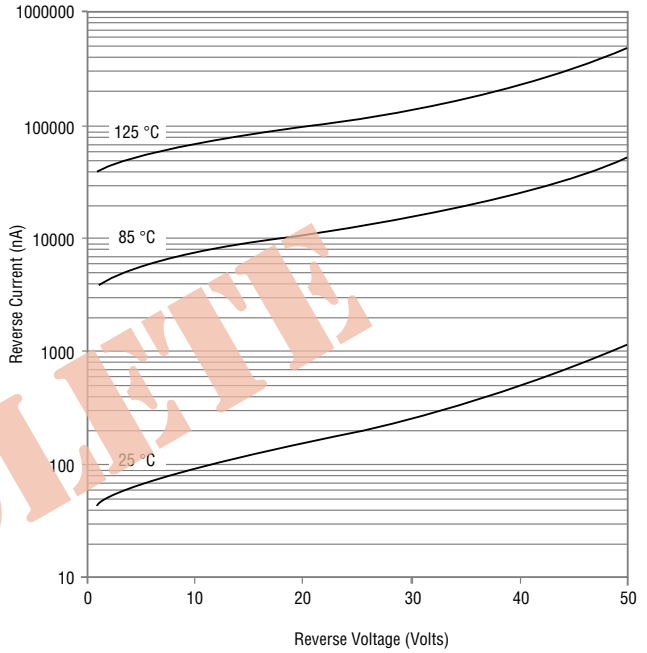


Rating and Characteristic Curves: CD0805-B0145

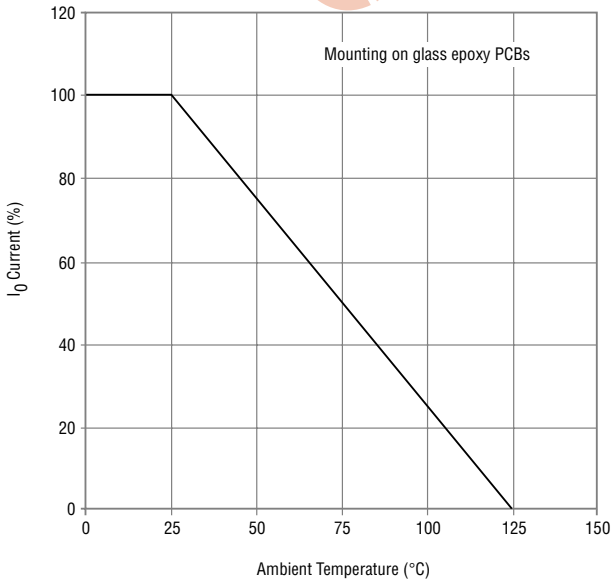
Forward Characteristics



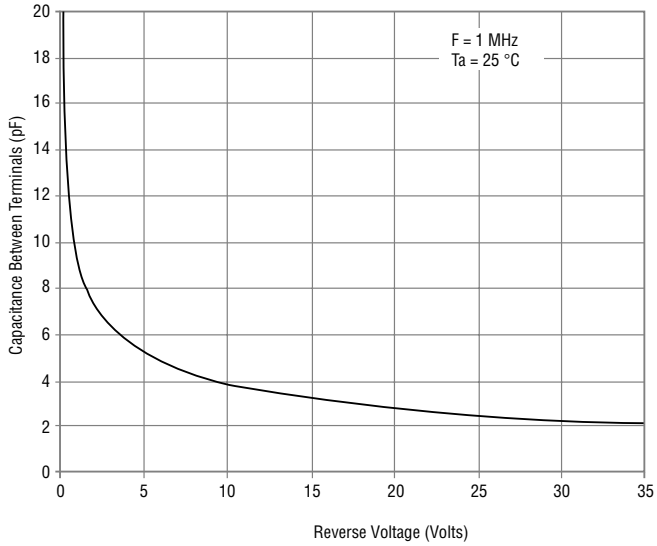
Reverse Characteristics



Derating Curve

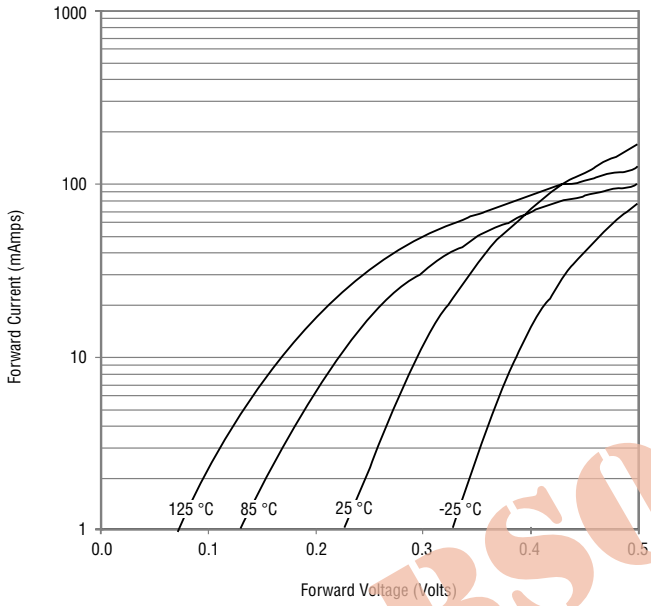


Capacitance Between Terminals

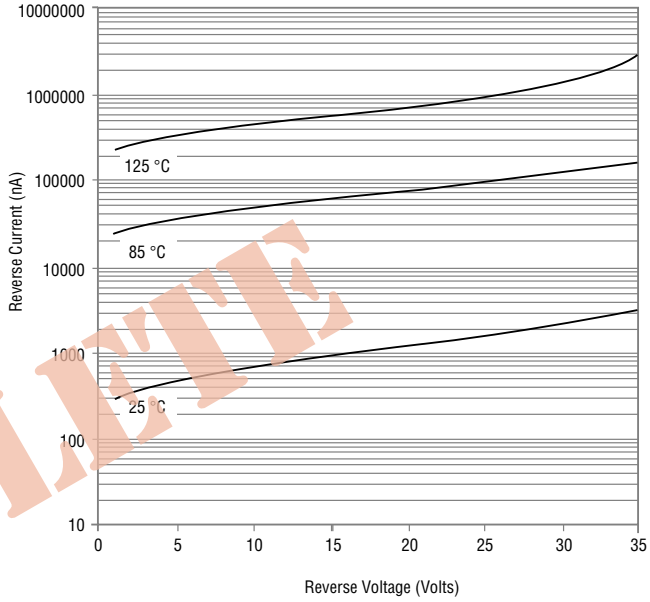


Rating and Characteristic Curves: CD0805-B0230

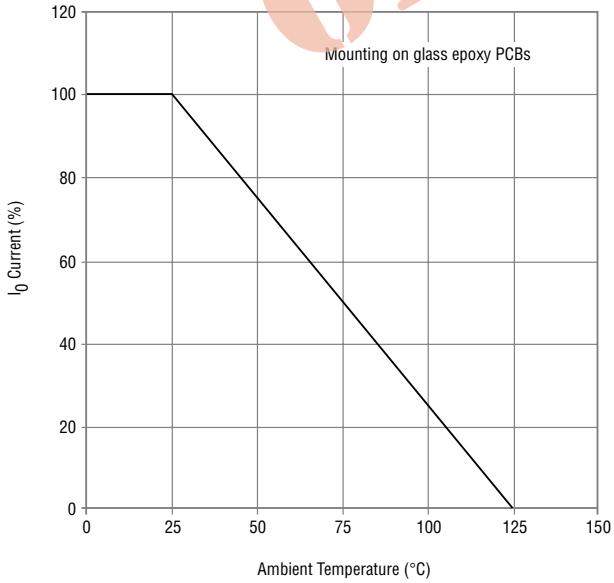
Forward Characteristics



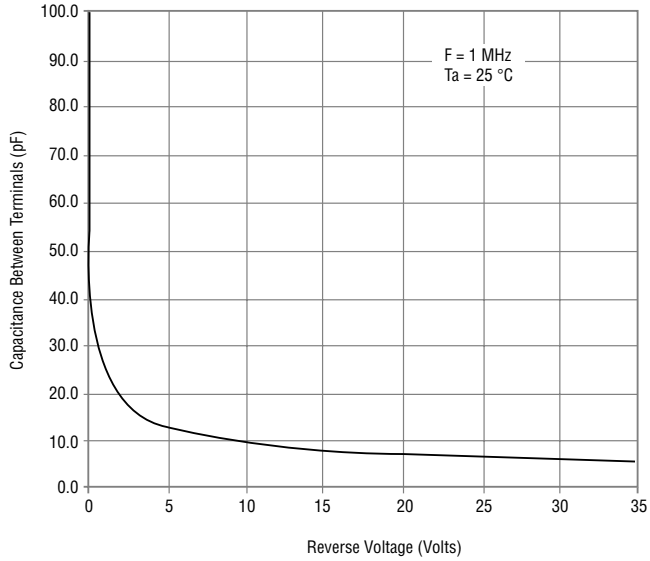
Reverse Characteristics



Derating Curve

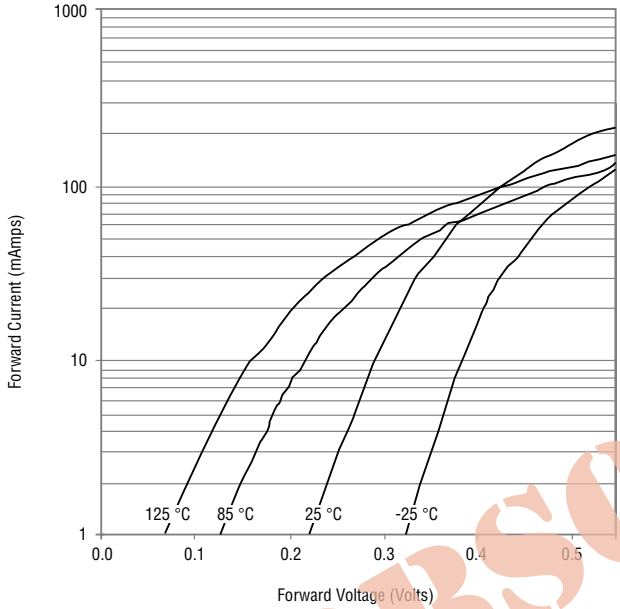


Capacitance Between Terminals

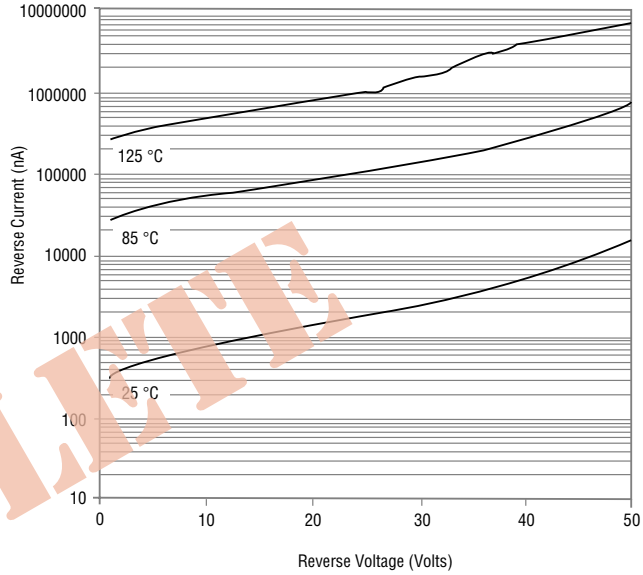


Rating and Characteristic Curves: CD0805-B0245

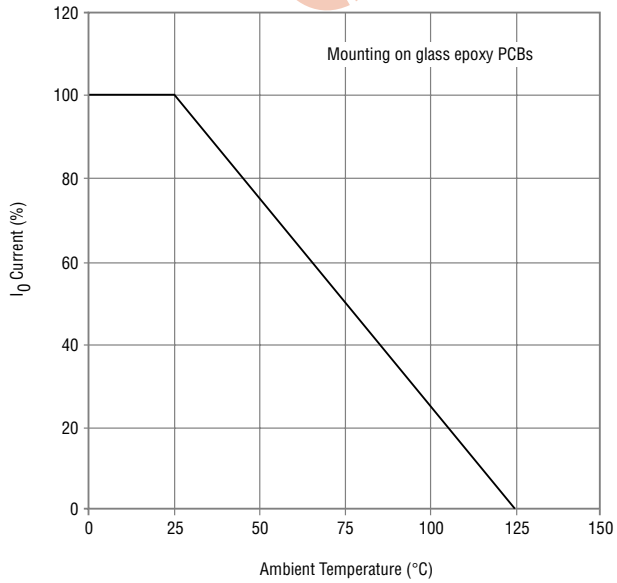
Forward Characteristics



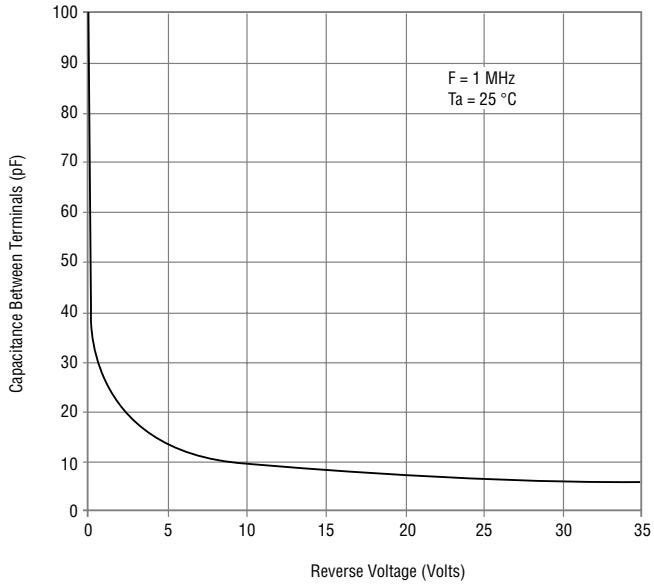
Reverse Characteristics



Derating Curve

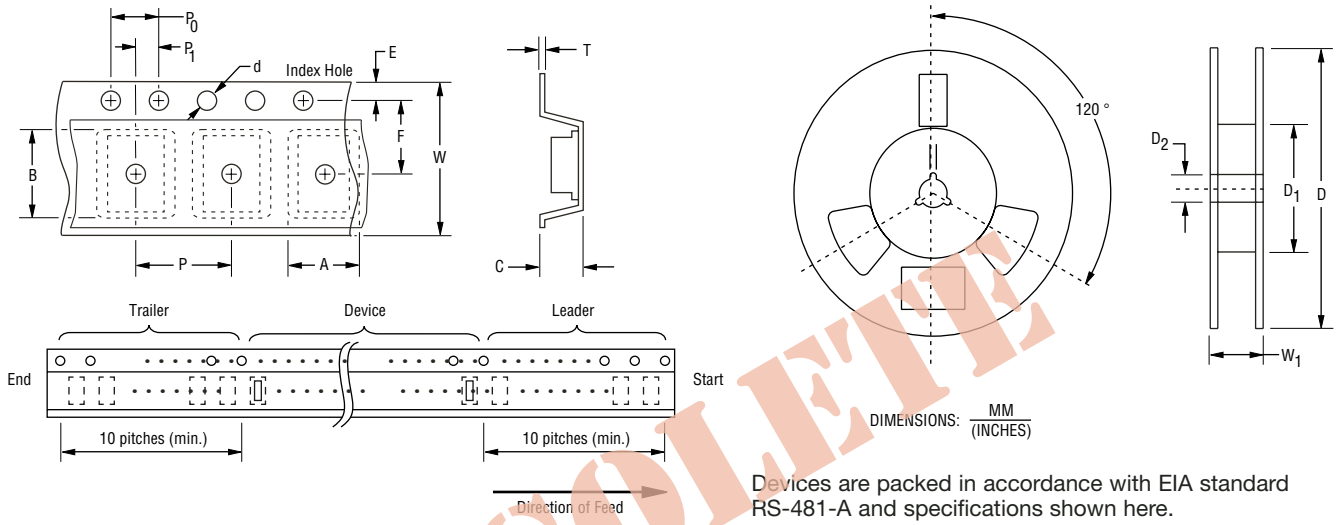


Capacitance Between Terminals



Packaging Information

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



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

Item	Symbol	0805
Carrier Width	A	1.55 ± 0.10 (0.061 - 0.004)
Carrier Length	B	2.30 ± 0.10 (0.091 - 0.004)
Carrier Depth	C	1.25 ± 0.10 (0.049 - 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	60.0 (2.362) 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	0.25 ± 0.05 (0.010 - 0.002)
Tape Width	W	8.00 ± 0.20 (0.315 - 0.008)
Reel Width	W_1	13.5 (0.531) MAX.
Quantity per Reel	--	3,000