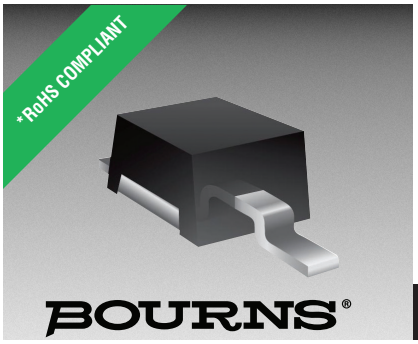


Features

- RoHS compliant*
- Low profile
- Surface mount
- Very low forward voltage drop

This series is currently available, but not recommended for new designs. The Model CD123D-B Series is the recommended replacement.

CD216A-B120L~B140 MITE 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 DO-216AA size chip package formats, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Barrier 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, are easy to handle with standard pick and place equipment and their flat configuration minimizes roll away.

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

Parameter	Symbol	CD216-				Unit
		B120L	B120R	B130L	B140	
Forward Voltage (Max.) (I_f = 1 A)	V_F	0.45	0.53	0.38	0.55	V
Typical Junction Capacitance**	C_T	90	75	70	60	pF
Reverse Current (Max.) (@ Rated V_R)	I_R	400	10	410	500	μA

**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	CD216-				Unit
		B120L	B120R	B130L	B140	
Repetitive Peak Reverse Voltage	V_{RRM}	20	20	30	40	V
DC Blocking Voltage	V_{DC}	20	20	30	40	V
RMS Voltage	V_{RMS}	14	14	21	28	V
Average Forward Current @ T_L = 130 °C	I_O	1				A
Peak Forward Surge Current***	I_{FSM}	50	50	50	40	A
Max. Instantaneous Forward Voltage****						
@ I_F = 0.1 A	V_F	0.34	0.455	0.30	0.36	V
@ I_F = 1.0 A		0.45	0.53	0.38	0.55	
@ I_F = 2.0 A			0.595			
@ I_F = 3.0 A		0.65		0.52	0.85	
Max. Instantaneous Reverse Current						
@ V_R = 40 V	I_R				0.50	mA
@ V_R = 30 V				0.41		
@ V_R = 20 V		0.4	0.0100	0.13	0.15	
@ VR = 10 V		0.1	0.0010	0.05		
@ V_R = 5 V			0.0005			
Thermal Resistance						
Junction to Lead (Anode)	$R_{\Theta JL}$	35				°C/W
Junction to Tab (Cathode)	$R_{\Theta JTAB}$	20				
Junction to Ambient	$R_{\Theta JA}$	250				
Storage Temperature	T_{STG}	-55 to +150				°C
Junction Temperature	TJ	-55 to +125				°C

***Surge Current 8.3 ms single phase, half sine wave, 60 Hz (JEDEC Method).
****Pulse Test; Pulse Width = 300 μS, Duty Cycle = 2 %.

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

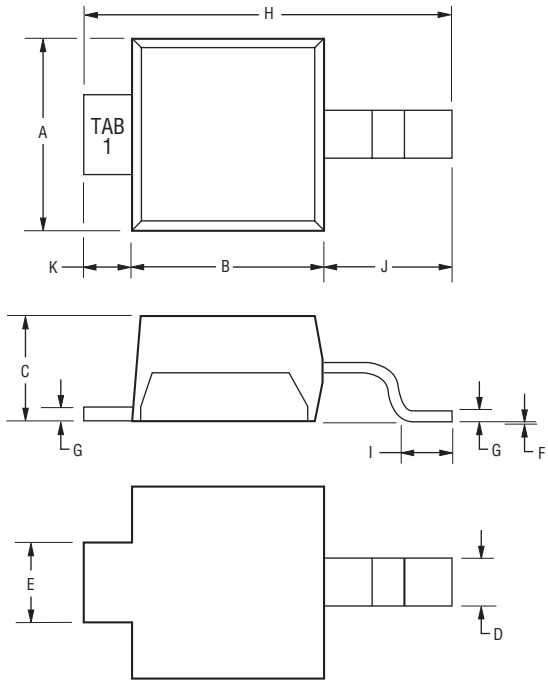
Applications

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

CD216A-B120L~B140 MITE Chip Diode

BOURNS®

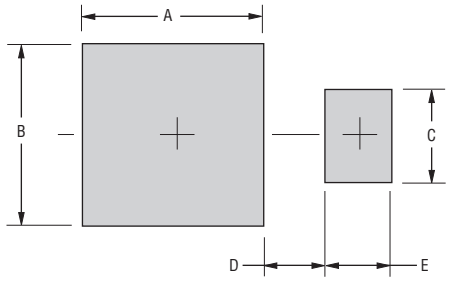
Product Dimensions



Dimension	DO-216AA
A	1.75 - 2.05 (0.069 - 0.081)
B	1.80 - 2.20 (0.071 - 0.087)
C	0.95 - 1.15 (0.037 - 0.045)
D	0.42 - 0.68 (0.017 - 0.027)
E	0.70 - 1.00 (0.028 - 0.039)
F	0.05 - 0.10 (0.002 - 0.004)
G	0.10 - 0.25 (0.004 - 0.010)
H	3.65 - 3.95 (0.144 - 0.156)
I	0.40 - 0.70 (0.016 - 0.028)
J	1.10 - 1.50 (0.043 - 0.059)
K	0.20 - 0.80 (0.008 - 0.060)

DIMENSIONS: MM / (INCHES)

Recommended Pad Layout



Dimension	DO-216AA
A	2.67 (0.105)
B	2.54 (0.100)
C	1.27 (0.050)
D	0.625 (0.025)
E	0.762 (0.030)

Physical Specifications

Case ..... JEDEC 20-216AA Molded plastic
Polarity ..... Cathode designated by TAB 1
Weight ..... Approximately 0.016 grams
Mounting Position ..... One way

Typical Part Marking

CD216A-B120L B2L
CD216A-B120R B2E
CD216A-B130L B3L
CD216A-B140 ..... B4S

How to Order

CD 216A - B 1 20 L LF

Common Code
Chip Diode

Package
• 216A = DO-216AA

Model
B = Schottky Barrier Series

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

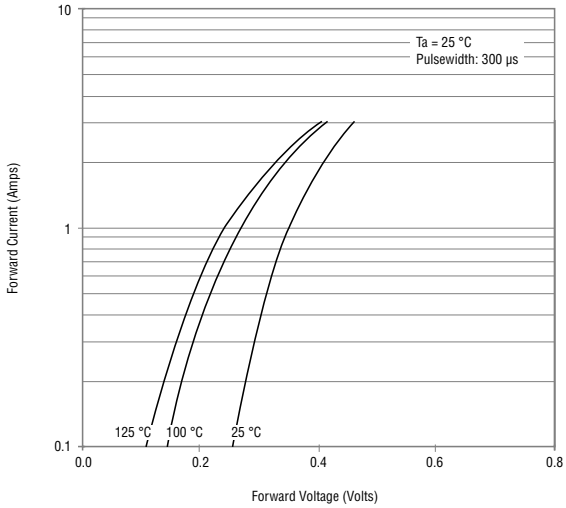
Reverse Voltage (VR) Code
20 = 20 V
30 = 30 V
40 = 40 V

Forward Voltage Suffix
L = Low Forward Voltage Vf (CD216-B120L, CD216-B130L)
R = Low Leakage Current IR (CD216-B120R)

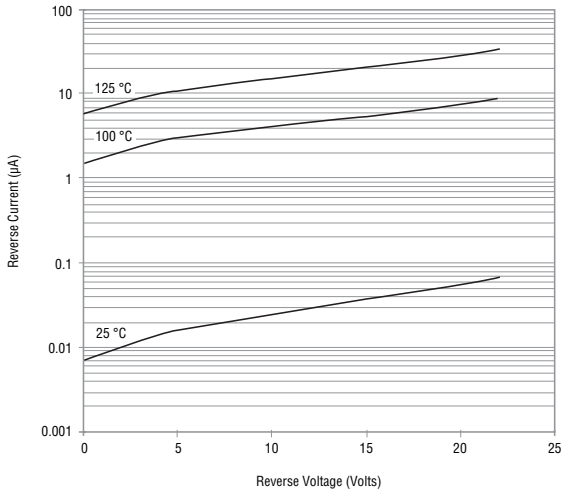
Terminations
LF = 100 % Sn (RoHS Compliant)

Rating & Characteristic Curves: CD216A-B120L

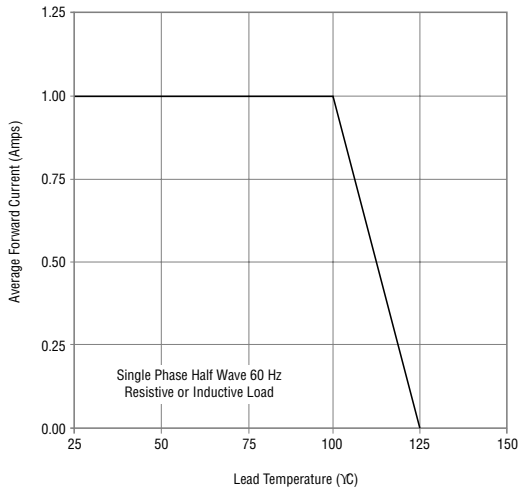
Forward Characteristics



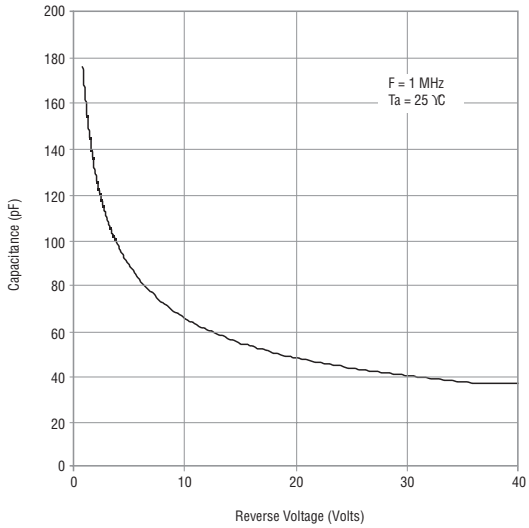
Reverse Characteristics



Derating Curve

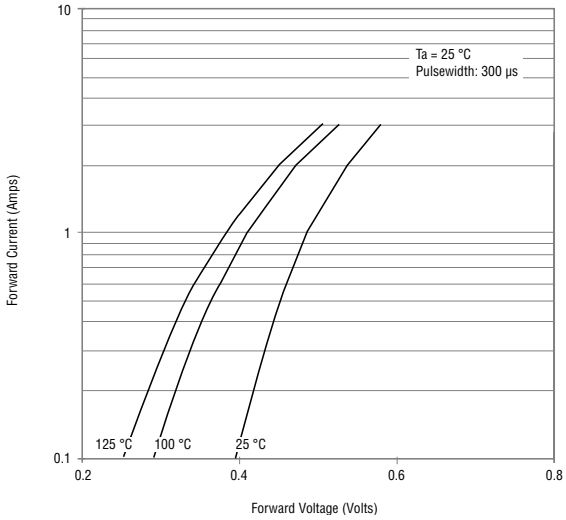


Capacitance Between Terminals

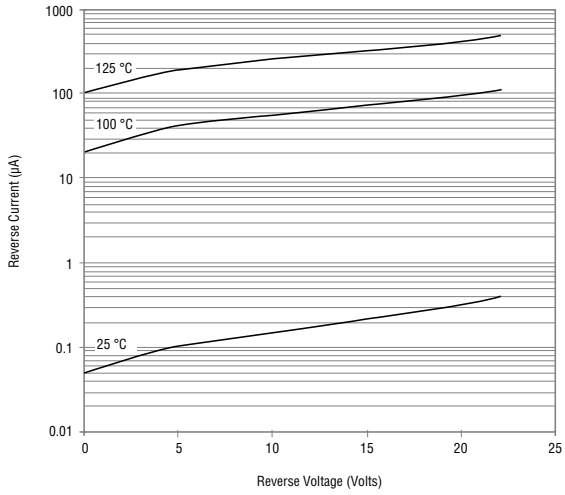


Rating & Characteristic Curves: CD216A-B120R

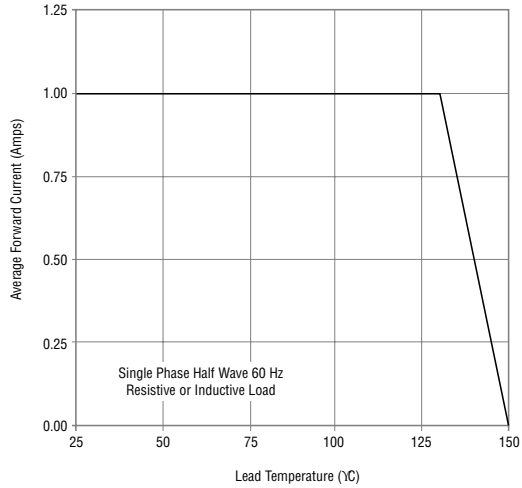
Forward Characteristics



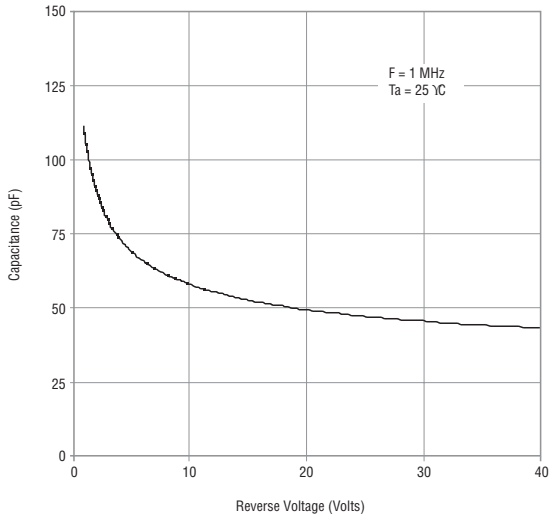
Reverse Characteristics



Derating Curve

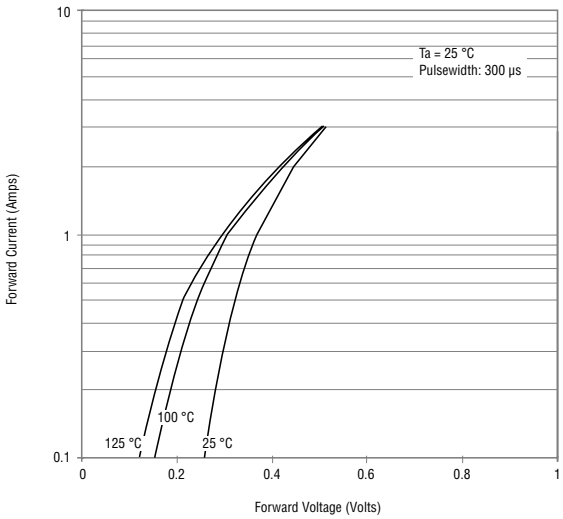


Capacitance Between Terminals

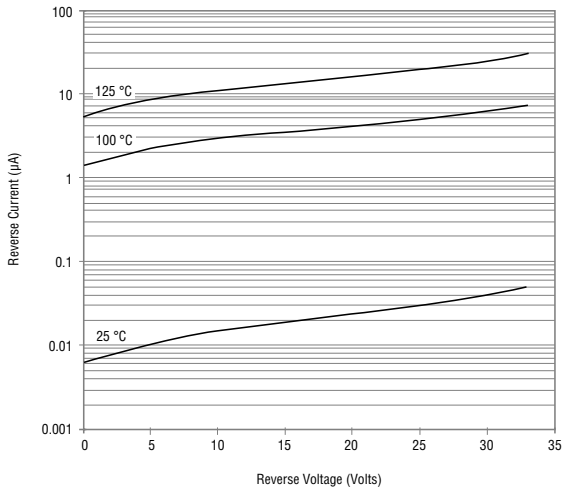


Rating & Characteristic Curves: CD216A-B130L

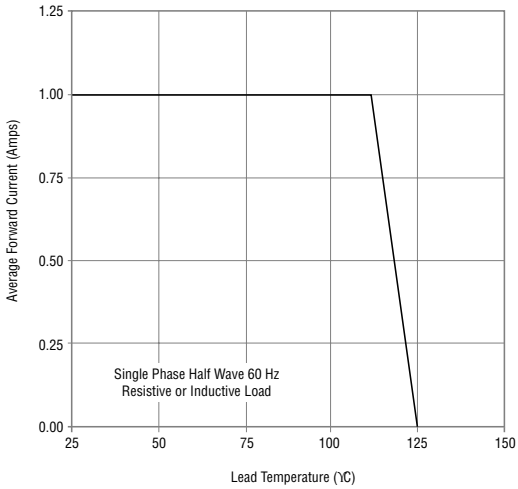
Forward Characteristics



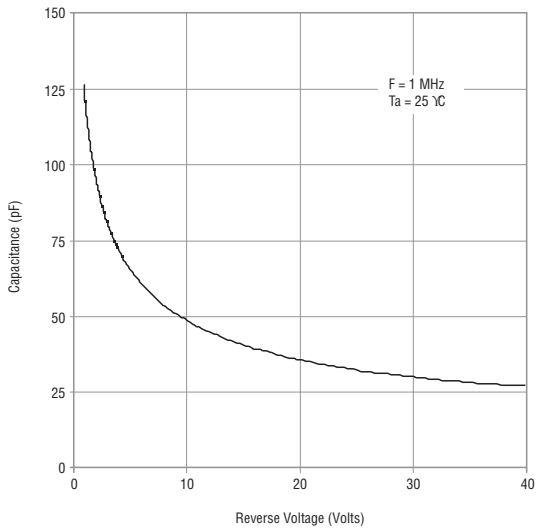
Reverse Characteristics



Derating Curve

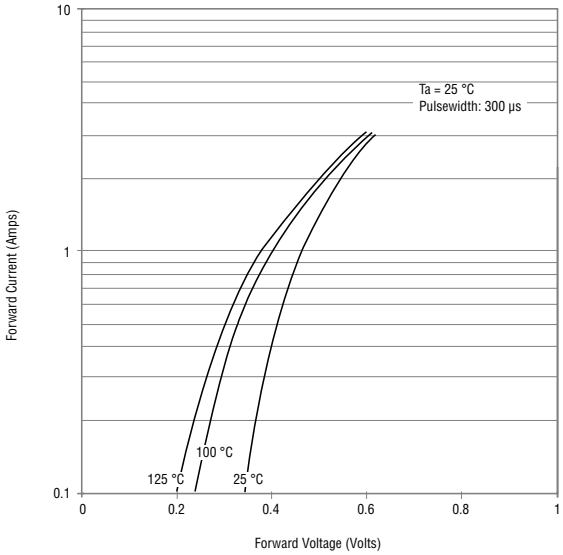


Capacitance Between Terminals

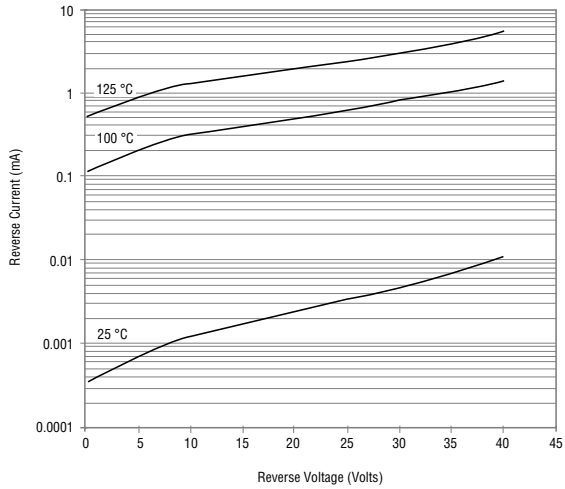


Rating & Characteristic Curves: CD216A-B140

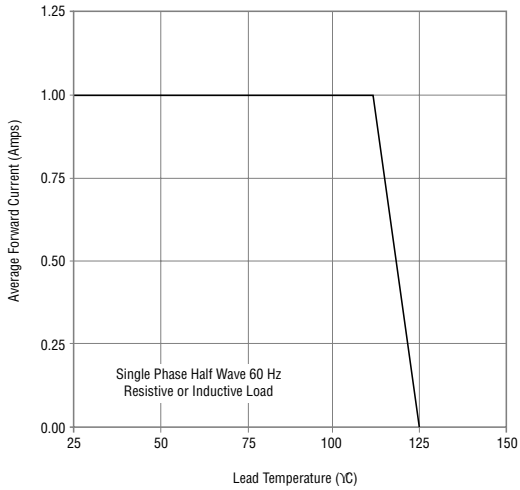
Forward Characteristics



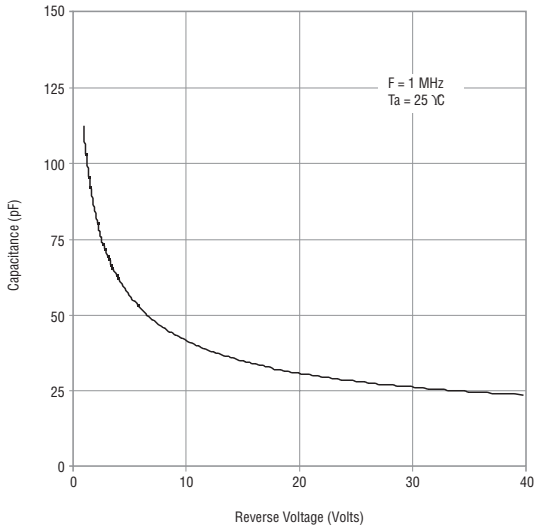
Reverse Characteristics



Derating Curve

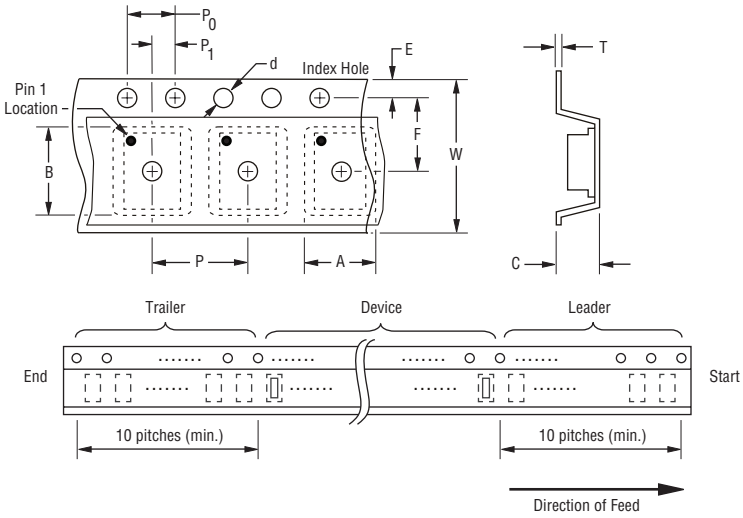


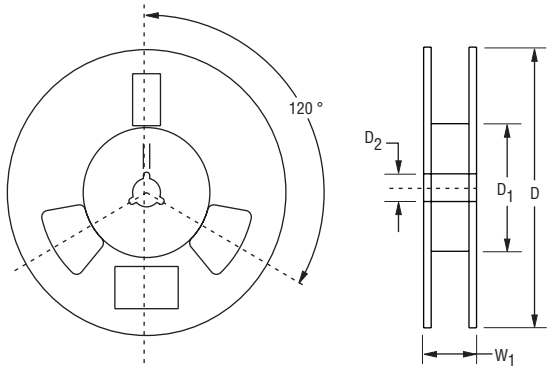
Capacitance Between Terminals



Packaging Information

The product is 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	DO-216AA
Carrier Width	A	2.90 ± 0.10 / (0.114 ± 0.004)
Carrier Length	B	5.30 ± 0.10 / (0.209 ± 0.004)
Carrier Depth	C	1.37 ± 0.10 / (0.054 ± 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	75.0 / (2.953) 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	5.50 ± 0.05 / (0.217 ± 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	0.40 ± 0.10 / (0.016 ± 0.004)
Tape Width	W	12.00 ± 0.20 / (0.472 ± 0.008)
Reel Width	W_1	18.4 / (0.724) MAX.
Quantity per Reel	--	3,000

REV. 10/17

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