

Features

- RoHS compliant*
- SMA package
- Surface mount
- Very low forward voltage drop

CD214A-B120 ~ B1100 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 DO-214AC (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 100 V.

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

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

Parameter	Symbol	CD214-											Unit
		B120	B120L	B130	B130L	B140	B150	B160	B170	B180	B190	B1100	
Forward Voltage (Max.) (I _f = 1 A)	V _F	0.5	0.41	0.5	0.41	0.5	0.7	0.7	0.79	0.79	0.79	0.79	V
Typical Junction Capacitance*	C _T	110	100	110	100	110	110	110	30	30	30	30	pF
Reverse Current (Max.) at Rated V _R)	I _R	500	1000	500	1000	500	500	500	500	500	500	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	CD214-											Unit
		B120	B120L	B130	B130L	B140	B150	B160	B170	B180	B190	B1100	
Repetitive Peak Reverse Voltage	V _{RRM}	20	20	30	30	40	50	60	70	80	90	100	V
Reverse Voltage	V _R	20	20	30	30	40	50	60	70	80	90	100	V
Maximum RMS Voltage	V _{RMS}	14	14	21	21	28	35	42	49	56	63	70	V
Avg. Forward Current	I _O	1											A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I _{surge}	30	25	30	25	30	30	30	30	30	30	30	A
Typical Thermal Resistance**	R _{θJL}	20	35	20	35	20	20	20	25	25	25	25	°C/W
Storage Temperature	T _{STG}	-55 to +150											°C
Junction Temperature	T _J	-55 to +125											°C

** Thermal resistance junction to lead.

BOURNS®

Asia-Pacific:
Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe:
Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas:
Tel: +1-951 781-5500 • Fax: +1-951 781-5700

www.bourns.com

*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.

How To Order

CD 214A - B 1 30 L LF

Common Code _____
Chip Diode

Package _____
• 214A = SMA/DO-214AC

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 _____
30 = 30 V
40 = 40 V
100 = 100 V

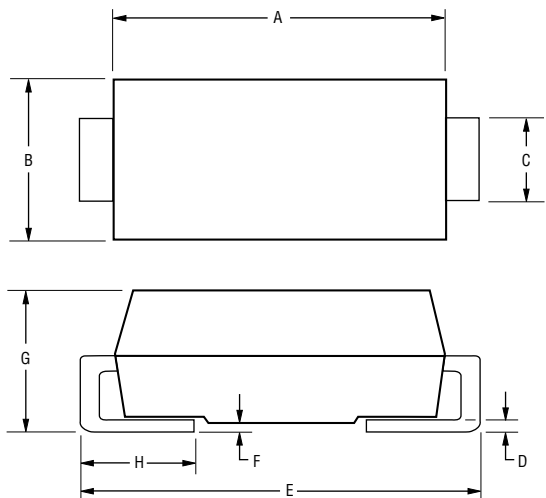
Forward Voltage Suffix (Applies to B120L & B130L only) _____
L = Low Forward Voltage V_f (B120L & B130L only)
No Space in P/N = Not Low Forward Voltage

Terminations _____
LF = 100 % Sn (RoHS Compliant)

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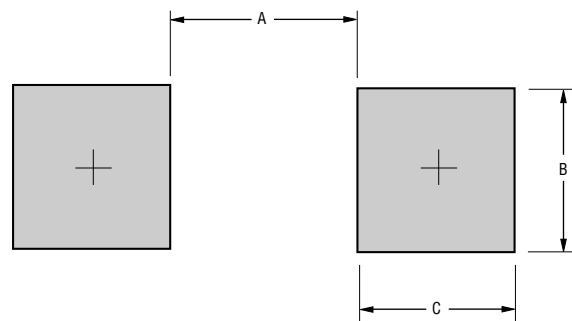
Product Dimensions



Dimension	SMA (DO-214AC)
A	$\frac{4.06 - 4.57}{(0.160 - 0.180)}$
B	$\frac{2.29 - 2.92}{(0.090 - 0.115)}$
C	$\frac{1.27 - 1.63}{(0.050 - 0.064)}$
D	$\frac{0.15 - 0.31}{(0.006 - 0.110)}$
E	$\frac{4.83 - 5.59}{(0.190 - 0.220)}$
F	$\frac{0.05 - 0.20}{(0.002 - 0.008)}$
G	$\frac{2.01 - 2.62}{(0.080 - 0.103)}$
H	$\frac{0.76 - 1.52}{(0.030 - 0.060)}$

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Recommended Pad Layout



Dimension	SMA (DO-214AC)
A (Max.)	$\frac{2.69}{(0.106)}$
B (Min.)	$\frac{2.10}{(0.083)}$
C (Min.)	$\frac{1.27}{(0.050)}$

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Physical Specifications

CaseMolded plastic
 PolarityIndicated by cathode band
 Weight0.002 ounces / 0.064 grams

Typical Part Marking

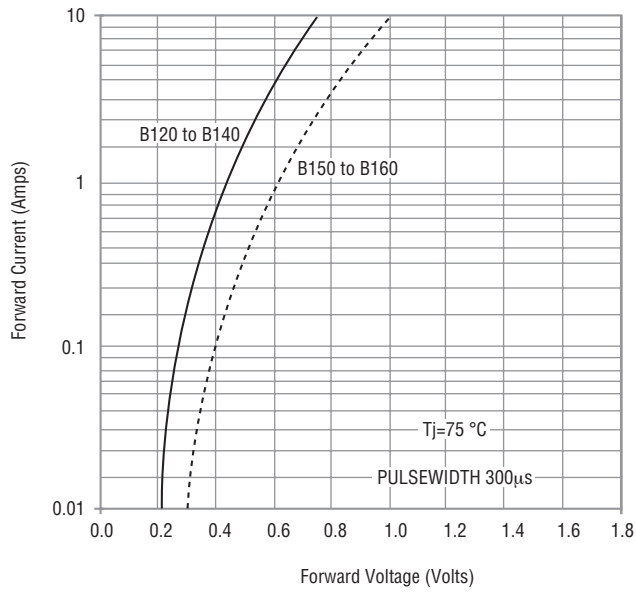
- CD214A-B120 **B** 120
- CD214A-B120L **B** 120L
- CD214A-B130 **B** 130
- CD214A-B130L **B** 130L
- CD214A-B140 **B** 140
- CD214A-B150 **B** 150
- CD214A-B160 **B** 160
- CD214A-B170 **B** 170
- CD214A-B180 **B** 180
- CD214A-B190 **B** 190
- CD214A-B1100 **B** 1100

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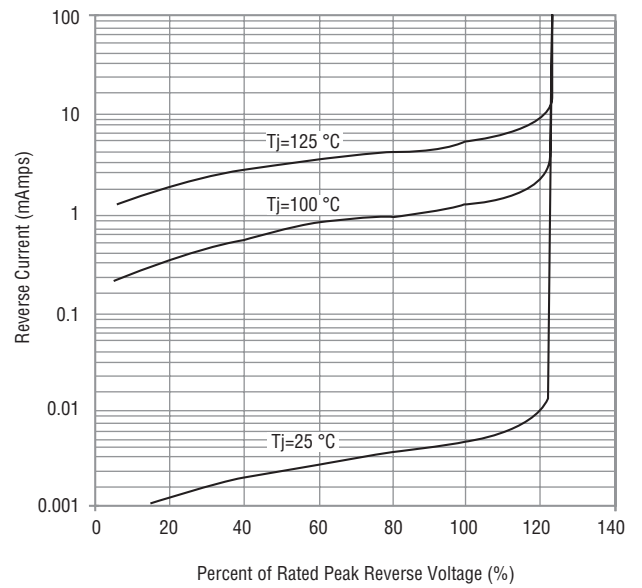


Rating and Characteristic Curves: CD214A-B120, CD214A-B130, CD214A-B140, CD214A-B150 & CD214A-B160

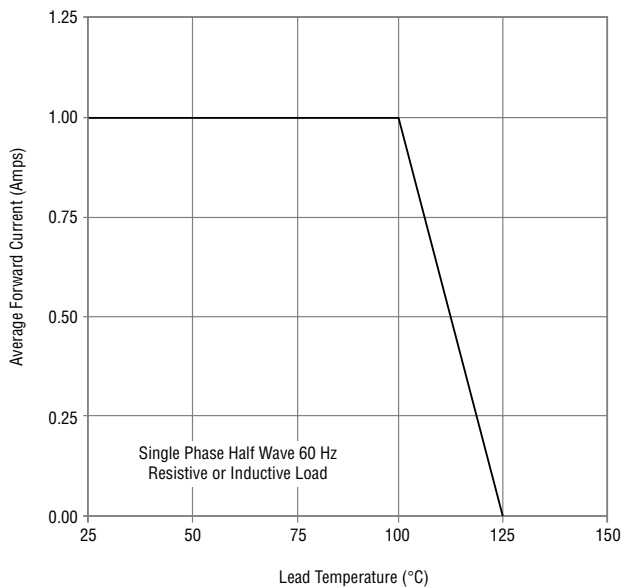
Forward Characteristics



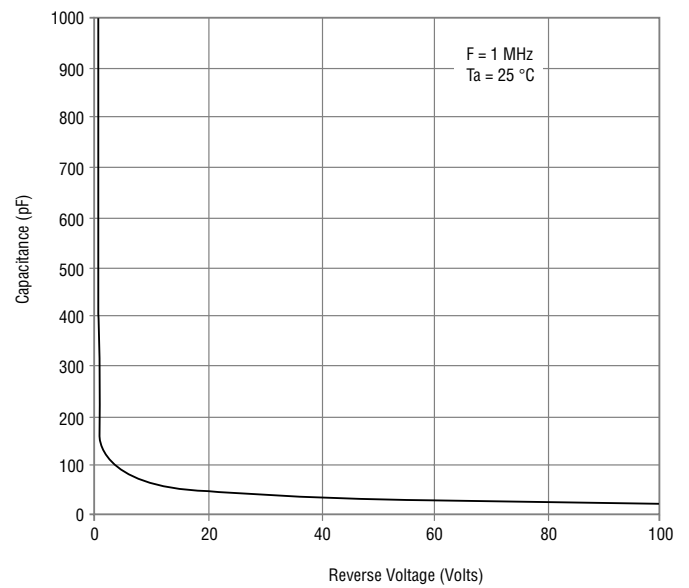
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

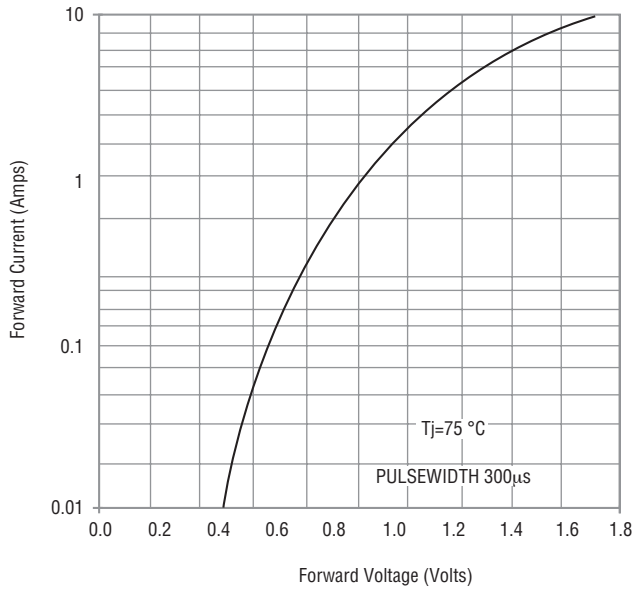


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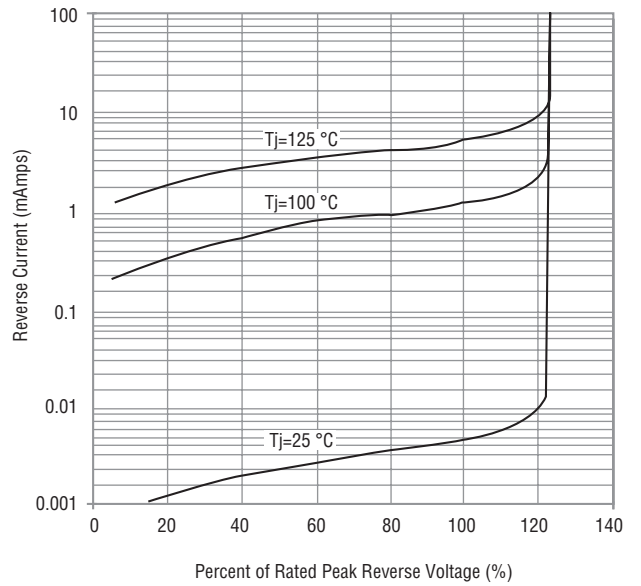


Rating and Characteristic Curves: CD214A-B130L

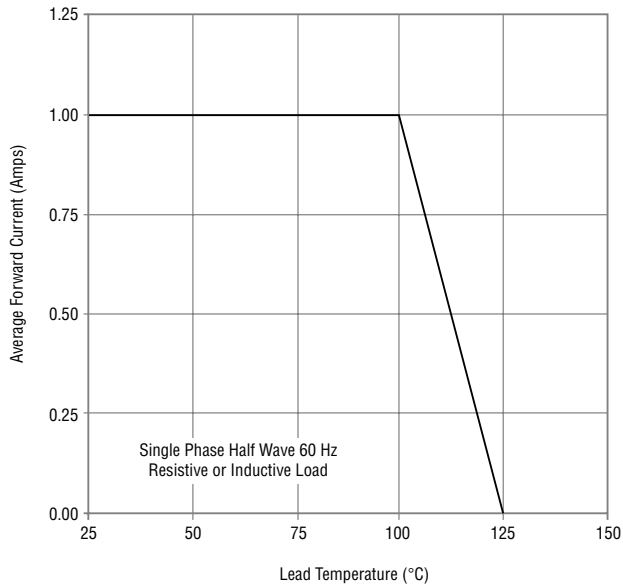
Forward Characteristics



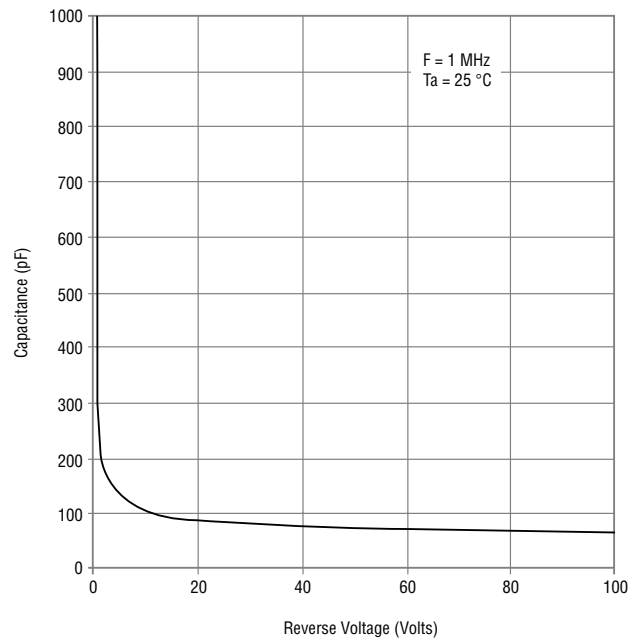
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

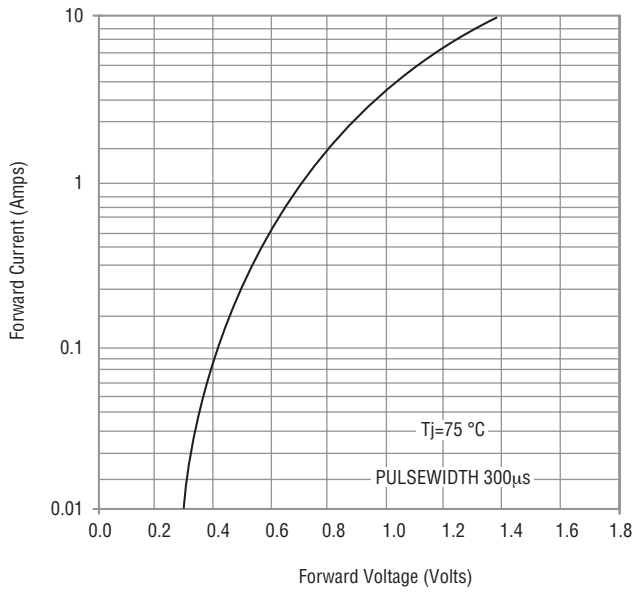


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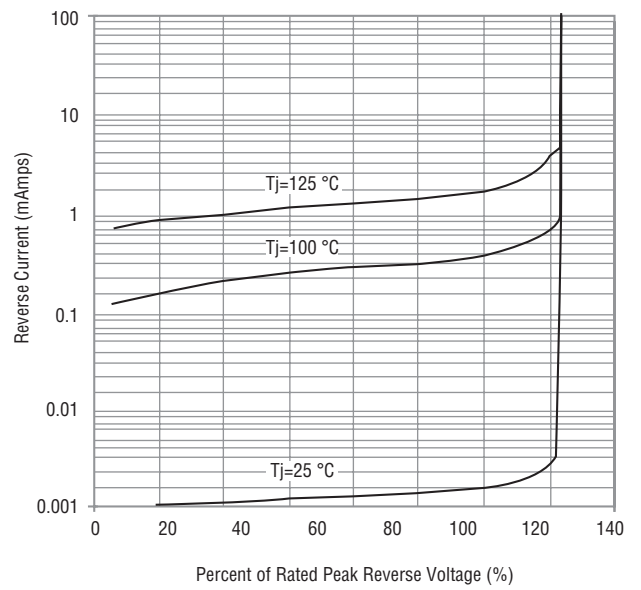


Rating and Characteristic Curves: CD214A-B170, CD214A-B180, CD214A-B190 & CD214A-B1100

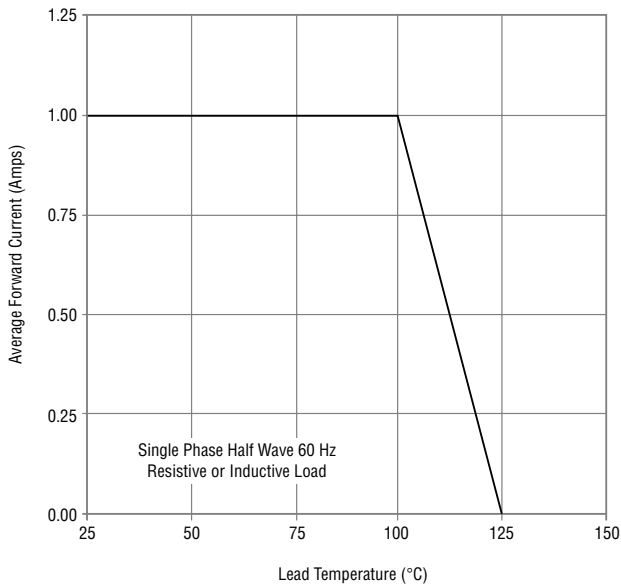
Forward Characteristics



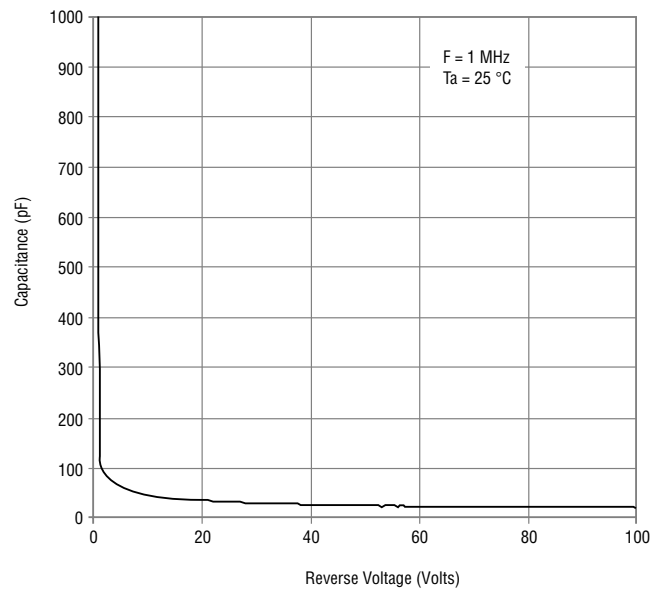
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

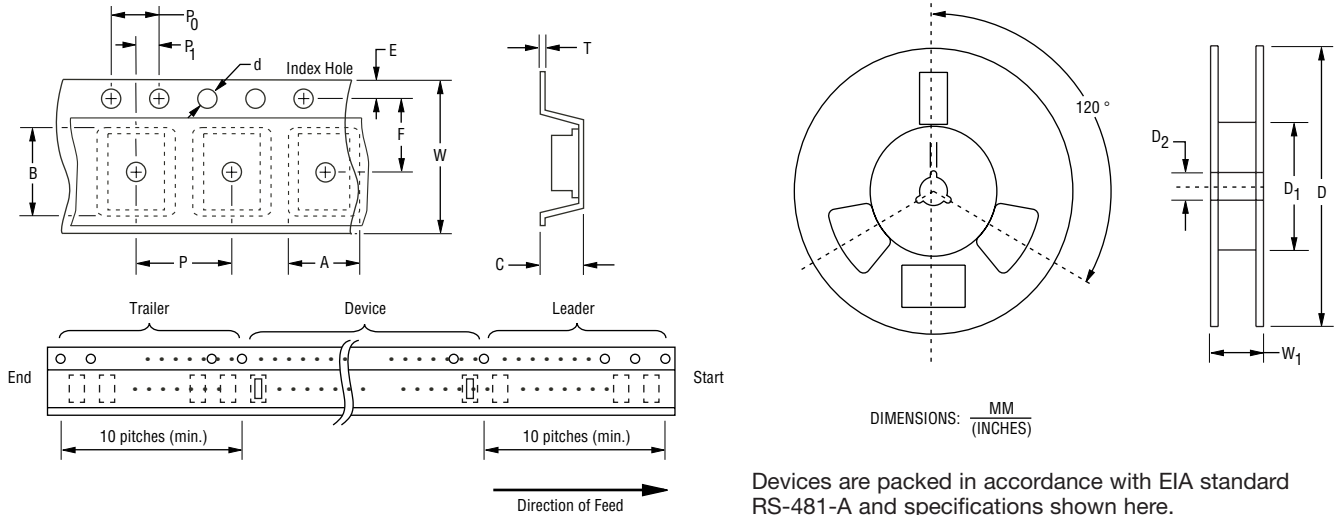


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Packaging Information

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



Item	Symbol	SMA (DO-214AC)
Carrier Width	A	$\frac{2.90 \pm 0.10}{(0.114 - 0.004)}$
Carrier Length	B	$\frac{5.59 \pm 0.10}{(0.220 - 0.004)}$
Carrier Depth	C	$\frac{2.36 \pm 0.10}{(0.093 - 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$
Punch Hole Position	F	$\frac{5.50 \pm 0.05}{(0.217 - 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.30 \pm 0.10}{(0.012 - 0.004)}$
Tape Width	W	$\frac{12.00 \pm 0.20}{(0.472 - 0.008)}$
Reel Width	W ₁	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	5,000

REV. 06/11

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