Features

- Lead free versions available
- RoHS compliant (lead free version)*
- 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 makes roll away much more difficult.

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

Parameter	Symbol	CD214-									Unit
		B120	B130	B130L	B140	B150	B160	B170	B180	B190	B1100	
Forward Voltage (Max.) (I_f = 1 A)	V_F	0.5	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	110	100	110	110	110	30	30	30	30	pF
Reverse Current (Max.) at Rated V_R)	I_R	500	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	B130	B130L	B140	B150	B160	B170	B180	B190	B1100	
Repetitive Peak Reverse Voltage	V_{RRM}	20	30	30	40	50	60	70	80	90	100	V
Reverse Voltage	V_R	20	30	30	40	50	60	70	80	90	100	V
Maximum RMS Voltage	V_{RMS}	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	30	25	30	30	30	30	30	30	30	A
Typical Thermal Resistance**	$R_{\theta JL}$	20	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.

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How To Order

CD 214A - B 1 30 L __

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
L = Low Forward Voltage V_f (CD214-B130L)

Terminations
LF = 100 % Sn (lead free)
Blank = Sn/Pb

*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.

CD214A-B120 ~ B1100 Schottky Barrier Rectifier Chip Diode

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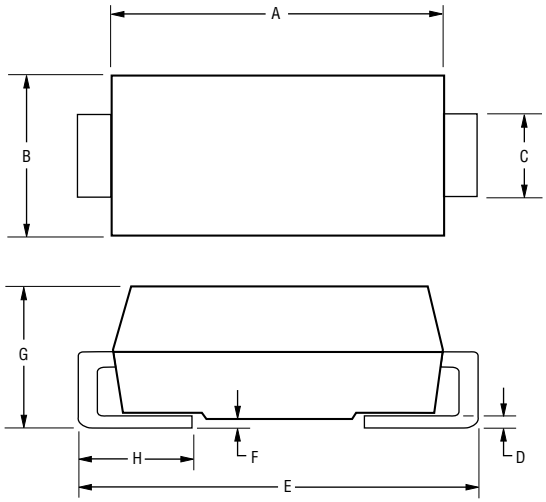
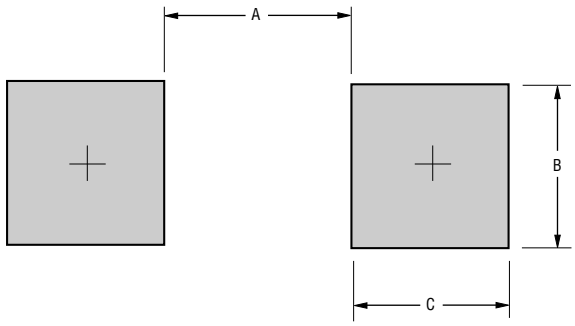
Product Dimensions



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

DIMENSIONS: MM / (INCHES)

Recommended Pad Layout



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

DIMENSIONS: MM / (INCHES)

Physical Specifications

Case .....Molded plastic
Polarity .....Indicated by cathode band
Weight .....0.002 ounces / 0.064 grams

Typical Part Marking

CD214A-B120 ..... B 120
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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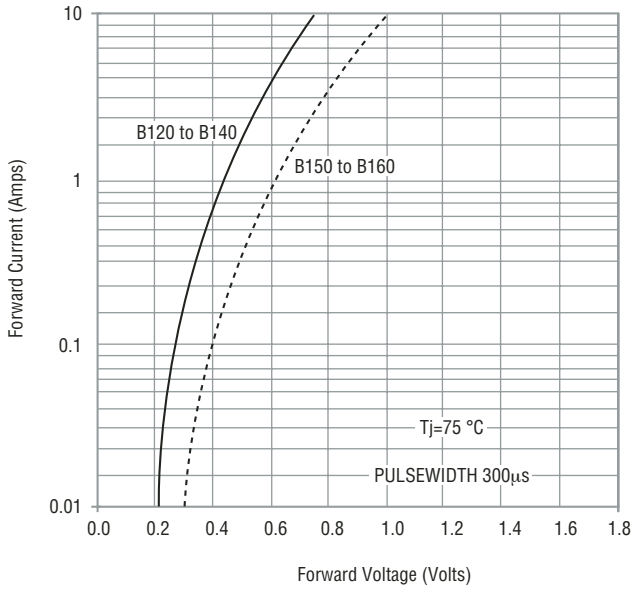
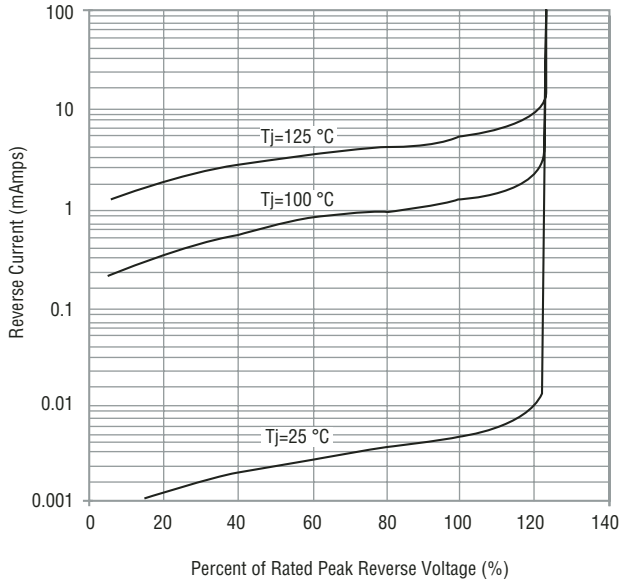
Rating and Characteristic Curves: CD214A-B120, CD214A-B130, CD214A-B140, CD214A-B150 & CD214A-B160

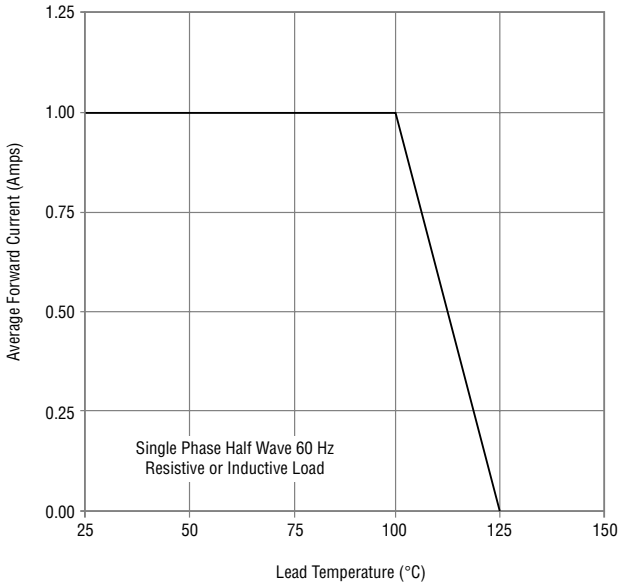
Forward Characteristics



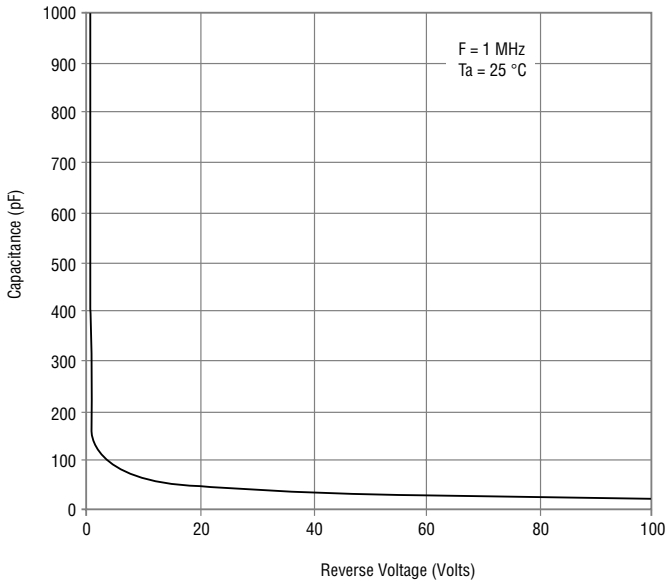
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



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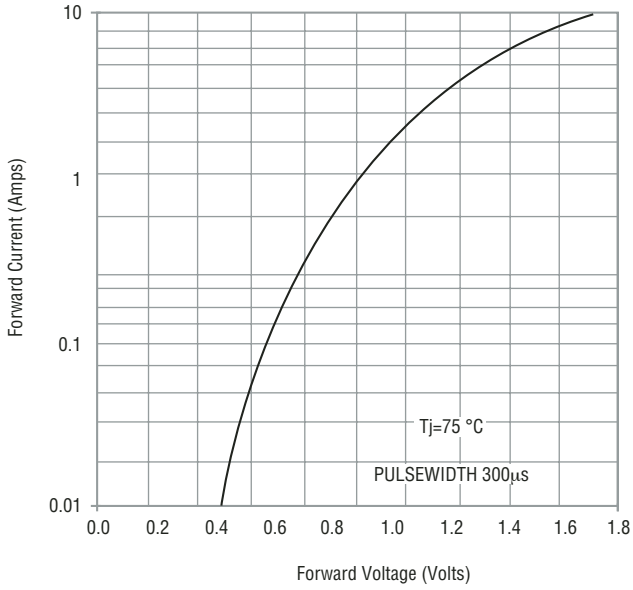
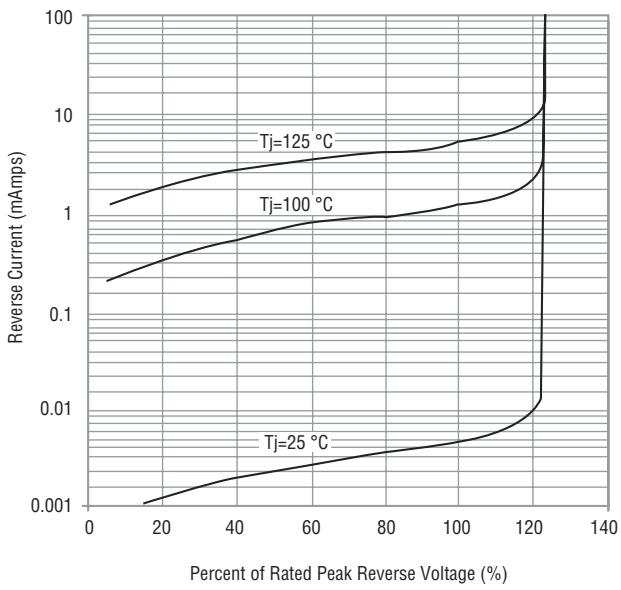
Rating and Characteristic Curves: CD214A-B130L

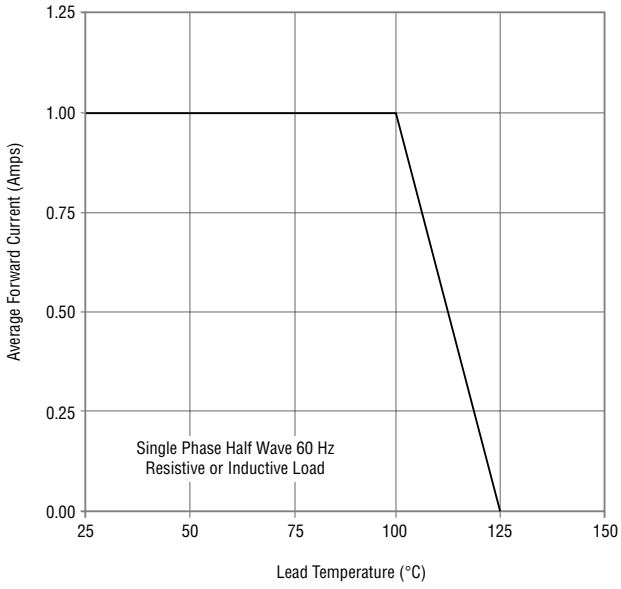
Forward Characteristics



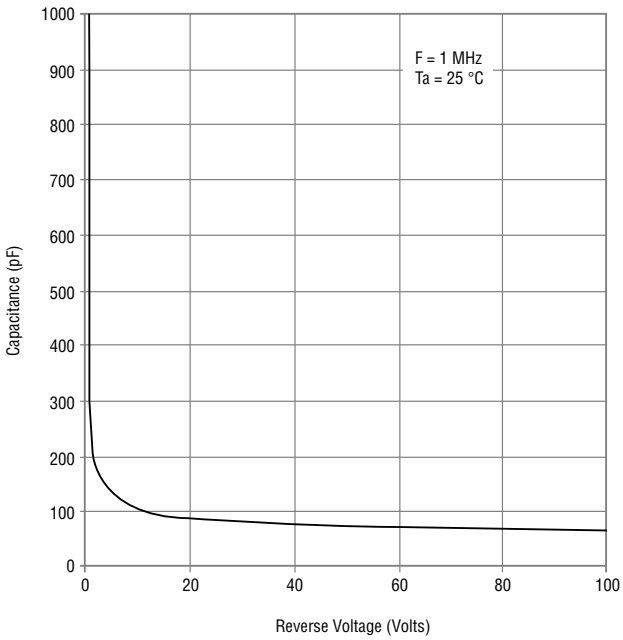
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



Specifications are subject to change without notice.
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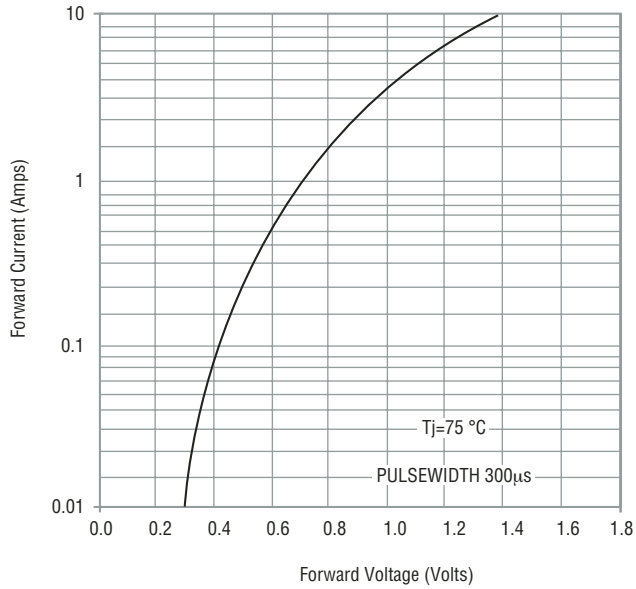
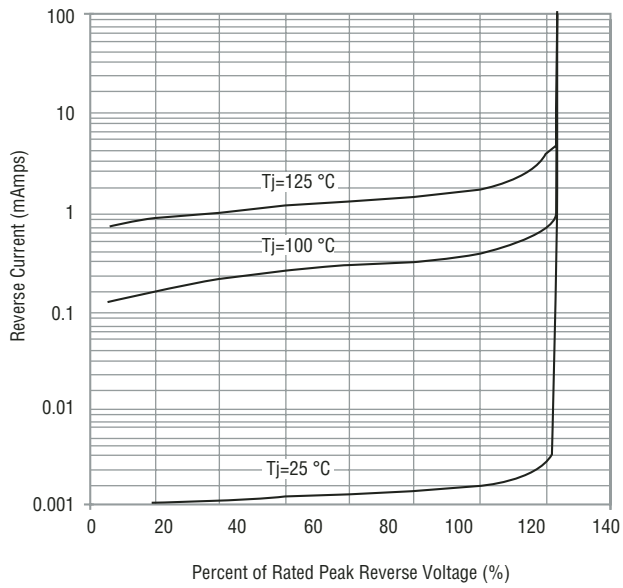
Rating and Characteristic Curves: CD214A-B170, CD214A-B180, CD214A-B190 & CD214A-B1100

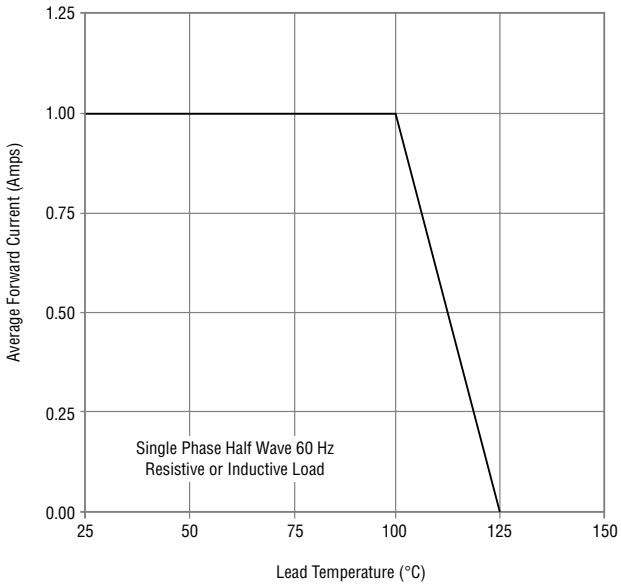
Forward Characteristics



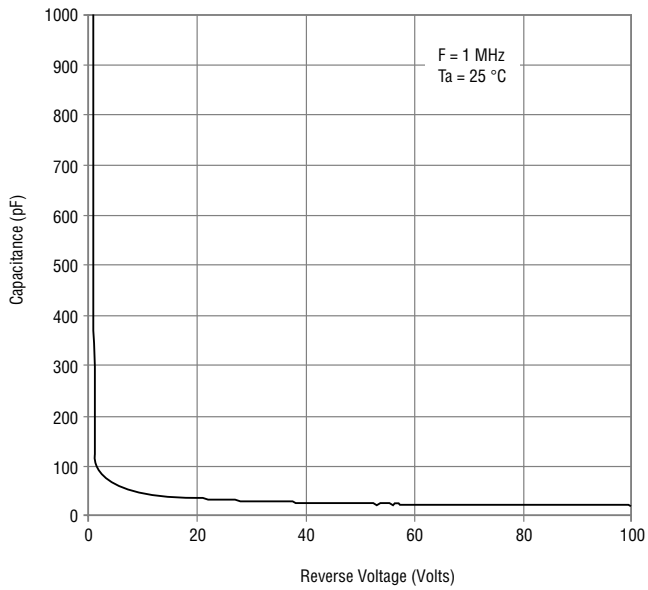
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



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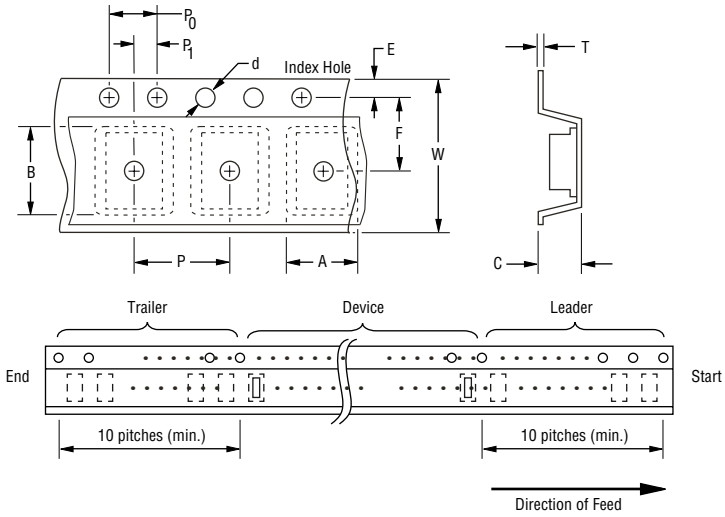
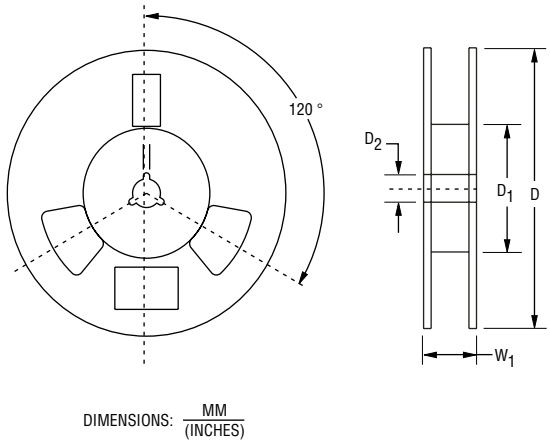
Customers should verify actual device performance in their specific applications.

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	SMA (DO-214AC)
Carrier Width	A	2.90 ± 0.10 (0.114 - 0.004)
Carrier Length	B	5.59 ± 0.10 (0.220 - 0.004)
Carrier Depth	C	2.36 ± 0.10 (0.093 - 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 - 0.002)
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D_1	50.0 (1.969) 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	0.30 ± 0.10 (0.012 - 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	--	5,000

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