



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 (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	CD214-										Unit
		B120	B130	B130L	B140	B150	B160	B170	B180	B190	B1100	
Forward Voltage (Max.) ($I_f = 1\text{ A}$)	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 (@ $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C}/\text{W}$
Storage Temperature	T_{STG}	-55 to +150										$^\circ\text{C}$
Junction Temperature	T_J	-55 to +125										$^\circ\text{C}$

** Thermal resistance junction to lead.



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www.bourns.com

How To Order

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

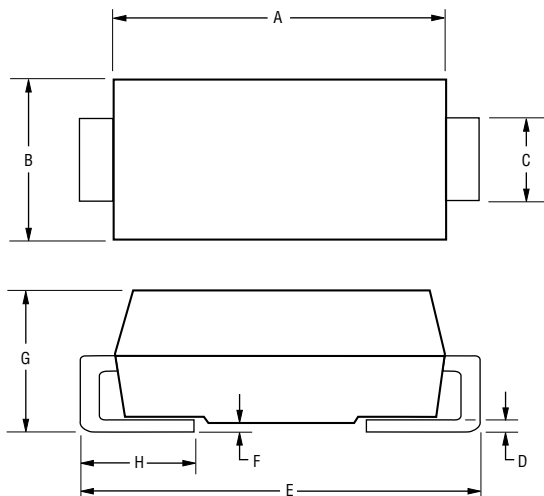
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

CD214A-B120 ~ B1100 Schottky Barrier Rectifier Chip Diode

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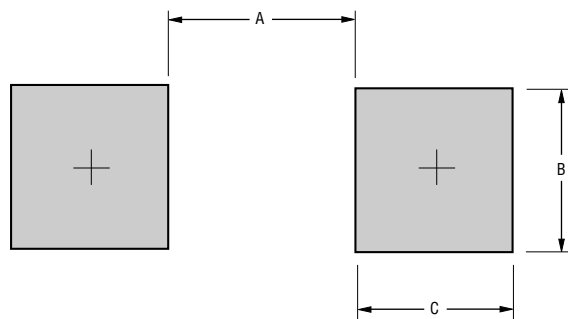
Product Dimensions



Dimension	SMA (DO-214AC)
A	$\frac{4.06 - 4.57}{(0.160 - 0.180)}$
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

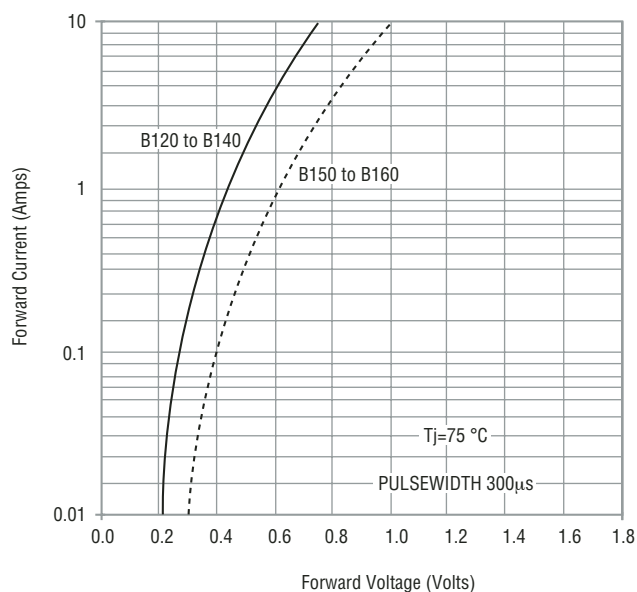
CD214A-B120 **B** 120
CD214A-B130 **B** 130
CD214A-B130L **B** 130L
CD214A-B140 **B** 140
CD214A-B150 **B** 150
CD214A-B160 **B** 160
CD214A-B170 **B** 170
CD214A-B180 **B** 180
CD214A-B190 **B** 190
CD214A-B1100 **B** 1100

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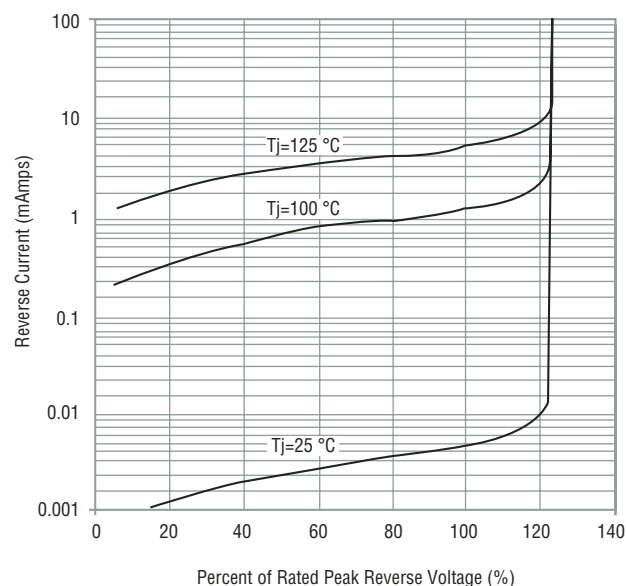
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Rating and Characteristic Curves: CD214A-B120, CD214A-B130, CD214A-B140, CD214A-B150 & CD214A-B160

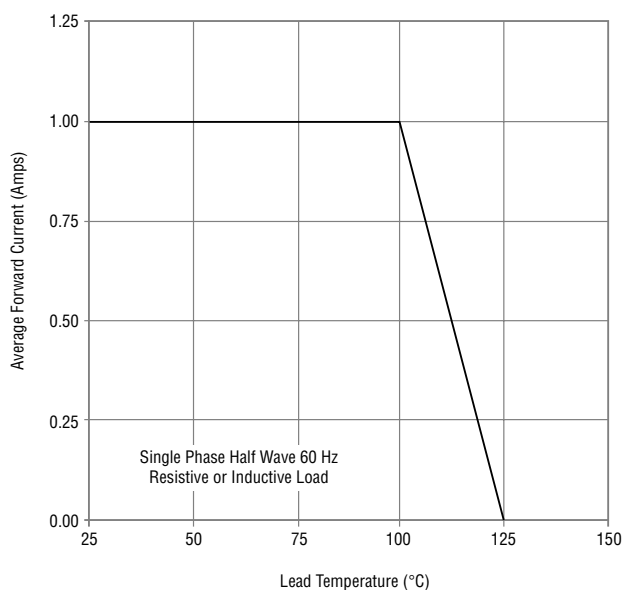
Forward Characteristics



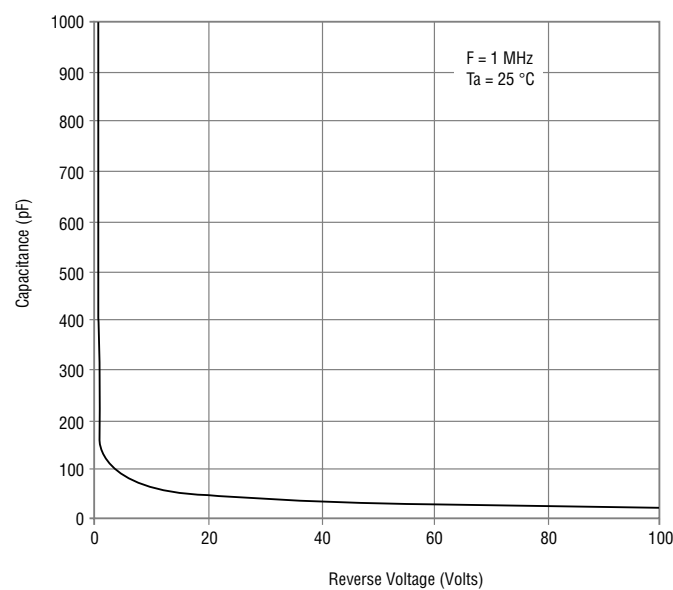
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

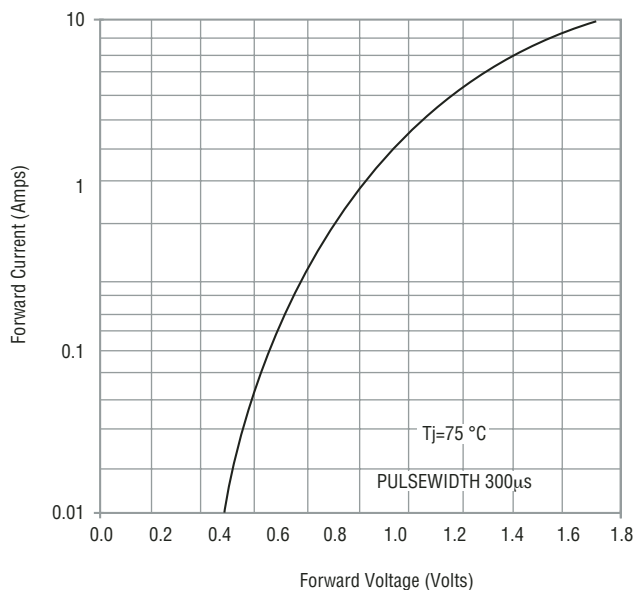


CD214A-B120 ~ B1100 Schottky Barrier Rectifier Chip Diode

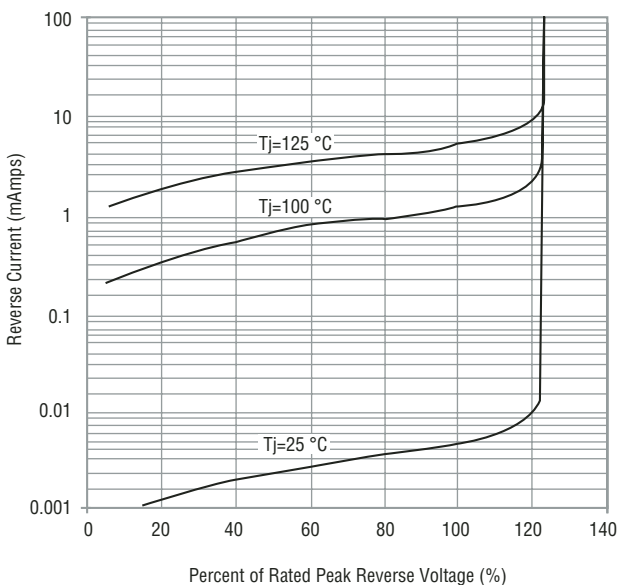
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Rating and Characteristic Curves: CD214A-B130L

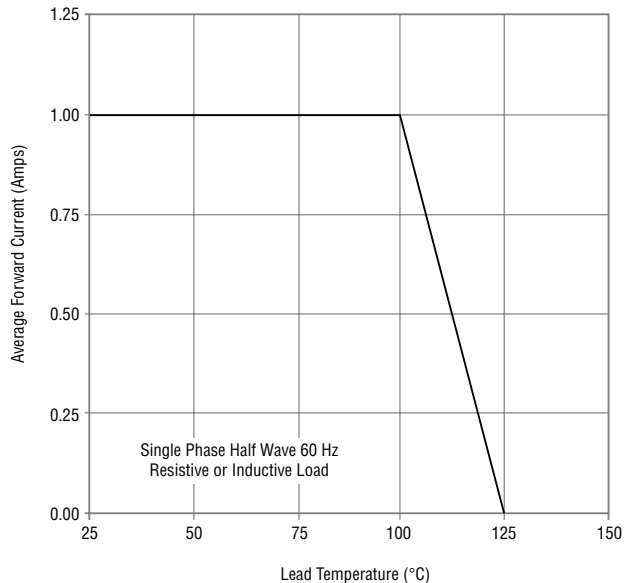
Forward Characteristics



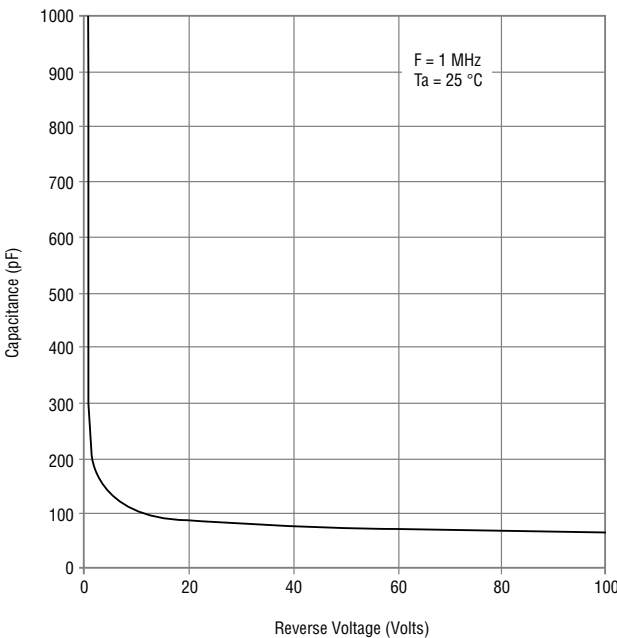
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



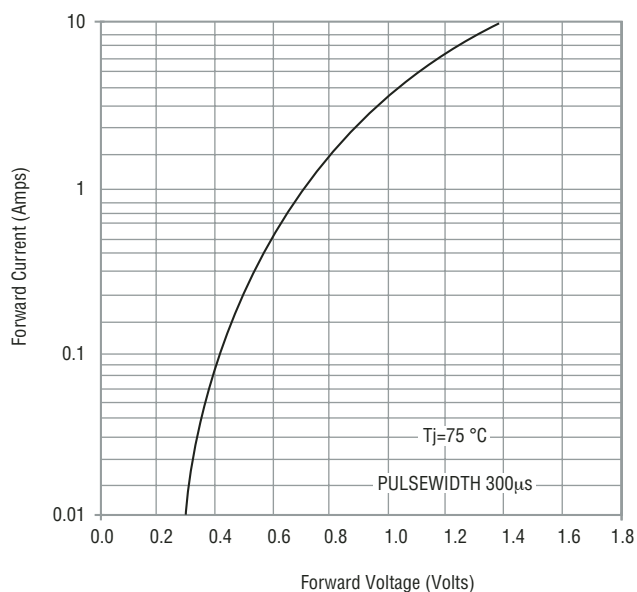
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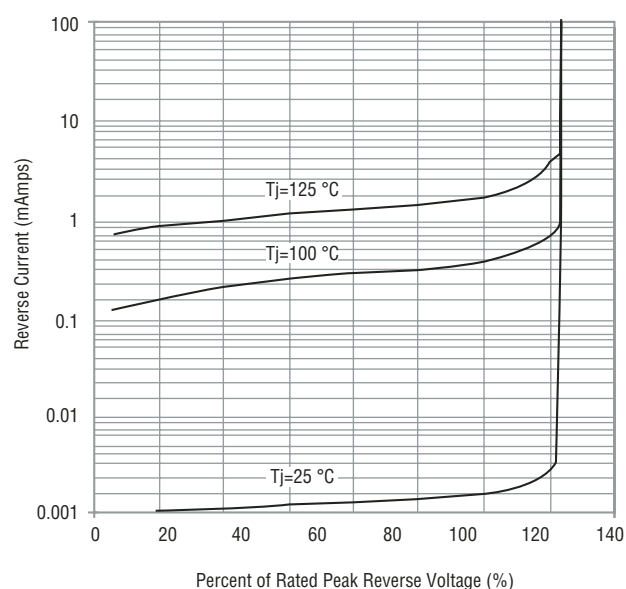
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Rating and Characteristic Curves: CD214A-B170, CD214A-B180, CD214A-B190 & CD214A-B1100

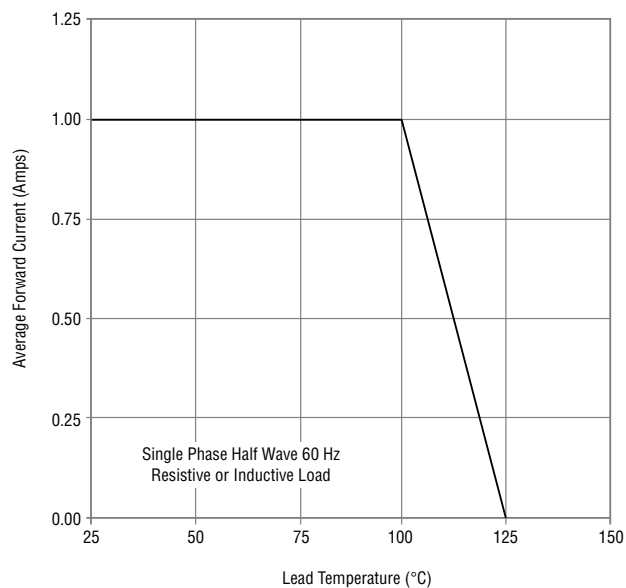
Forward Characteristics



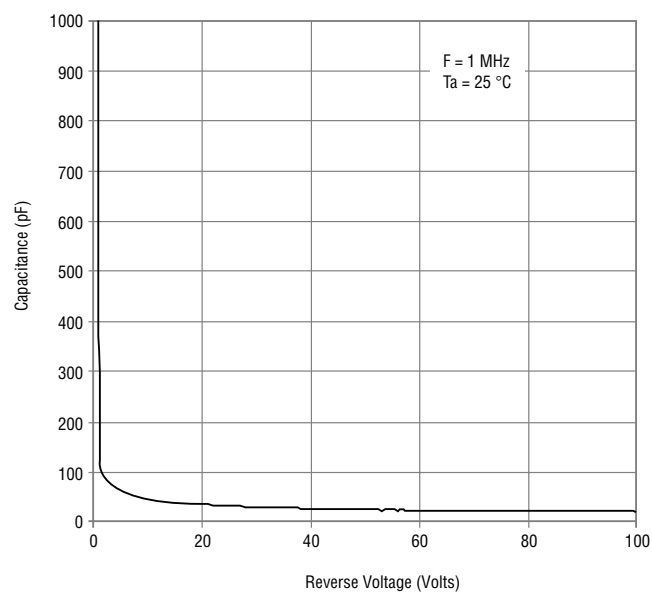
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

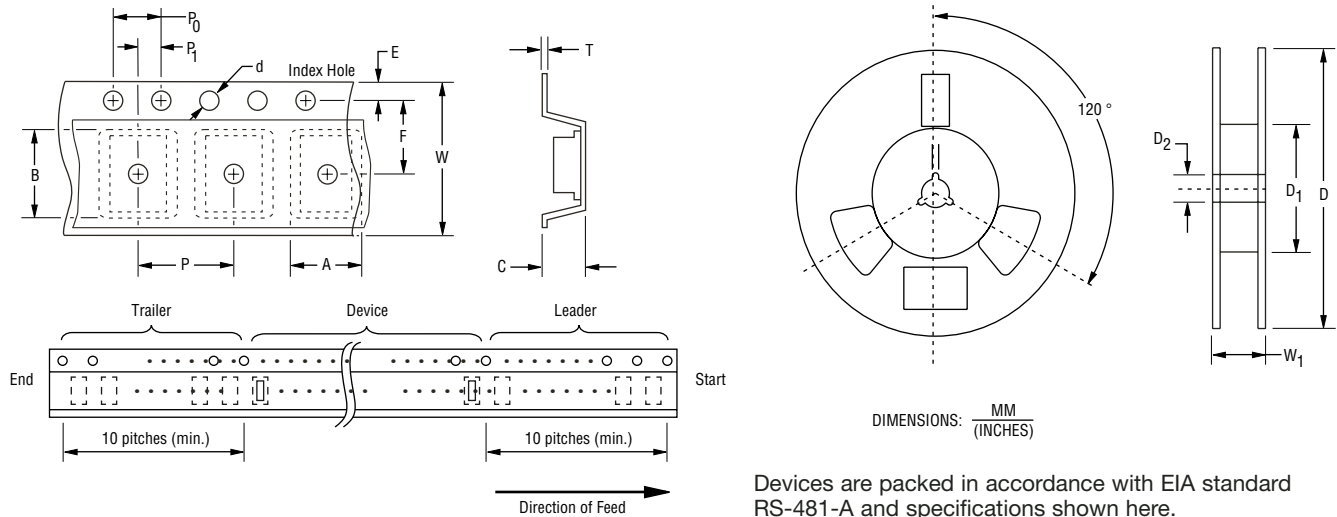


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Packaging Information

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	$\frac{50.0}{(1.969)} \text{ MIN.}$
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	$\frac{18.4}{(0.724)} \text{ MAX.}$
Quantity per Reel	--	5,000

REV. 02/05

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