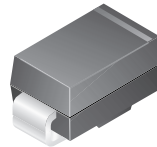


# SS12 - S100

## Features

- Glass passivated junctions.
- High current capability, low  $V_F$ .
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.



**SMA/DO-214AC**  
COLOR BAND DENOTES CATHODE

## 1.0 Ampere Schottky Barrier Rectifiers

### Absolute Maximum Ratings\* $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$I_{F(AV)}$	Average Rectified Current .375" lead length @ $T_A = 75^\circ\text{C}$	1.0	A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	40	A
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	1.1 11	W mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient **	88	$^\circ\text{C}/\text{W}$
$T_{stg}$	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-65 to +125	$^\circ\text{C}$

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

\*\* Device mounted on FR-4 PCB 0.013 mm.

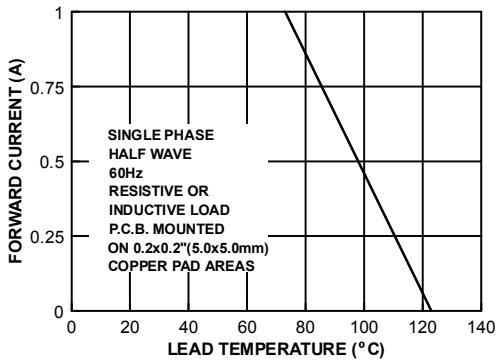
### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Device								Units
		12	13	14	15	16	18	19	100	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	20	30	40	50	60	80	90	100	V
$V_{RMS}$	Maximum RMS Voltage	14	21	28	35	42	56	64	71	V
$V_R$	DC Reverse Voltage (Rated $V_R$ )	20	30	40	50	60	80	90	100	V
$I_{RM}$	Maximum Instantaneous Reverse Current $T_A = 25^\circ\text{C}$ (Note 1) @ rated $V_R$ $T_A = 100^\circ\text{C}$	0.2 10								mA mA
$V_{FM}$	Maximum Instantaneous Forward Voltage @ 1.0 A	500		700		850				mV

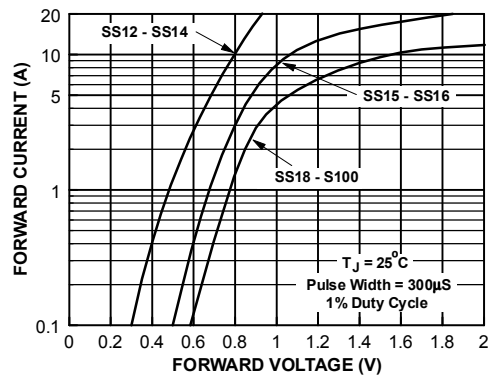
**Note:** Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

Typical Characteristics

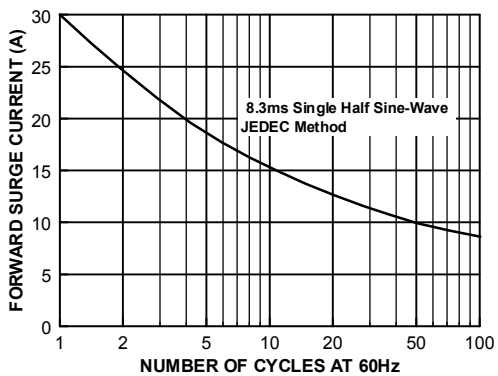
Forward Current Derating Curve



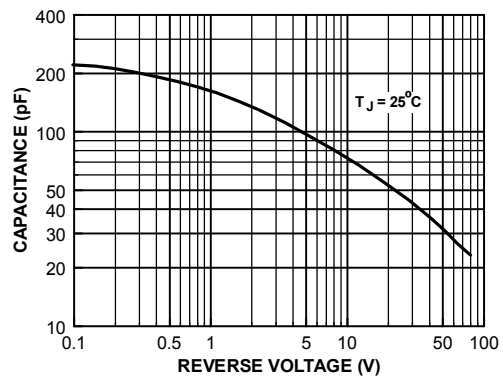
Forward Characteristics



Non-Repetitive Surge Current



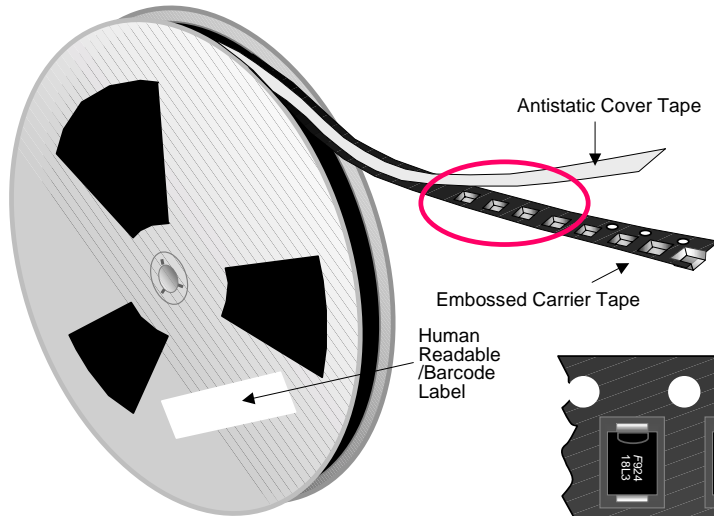
Junction Capacitance



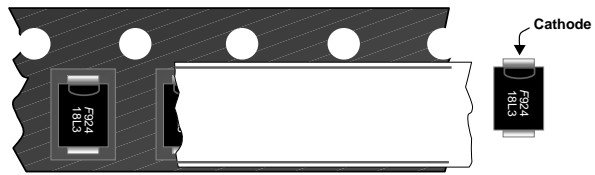
# DO-214AC(SMA) Tape and Reel Data



## DO-214AC(SMA) Packaging Configuration: Figure 1.0

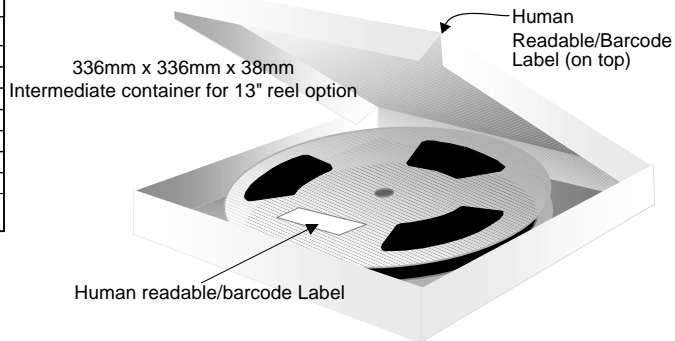


**Packaging Description:**  
 DO-214AC(SMA) parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. Alternate carrier tape is made of anti-static plastic. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 7,500 units per 13" or 330cm diameter reel. The reel comes in plastic or carton which is made of polystyrene plastic (anti-static coated) and thick white paper respectively. Further information is described in the Packaging Information table.  
 These full reels are individually labeled and placed inside a bleach box (illustrated in figure 1.0) made of recyclable carton paper with a Fairchild logo printing. One box contains two reels maximum. Certain number of these boxes are placed inside shipping box which comes in different sizes depending on the number of parts shipped.



DO-214AC(SMA) unit orientation

DO-214AC(SMA) Packaging Information		
Packaging Option	Under package code P5	Under package code MA
Packaging type	TNR	TNR
Qty per Reel/Tube/Bag	7,500	5,000
Reel Size (inch diameter)	13	13
Box Dimension (mm)	336X336X38	340X350X340
Max qty per Box	15,000	10,000
Weight per unit (gm)	0.064	0.064
Weight per Reel (kg)	0.860	0.750
Note/Comments	Human readable label	Barcode label



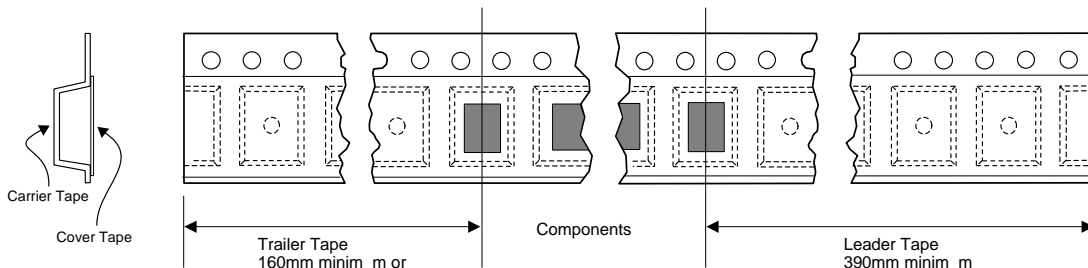
### Human Readable Label sample



### F63TNR Label sample

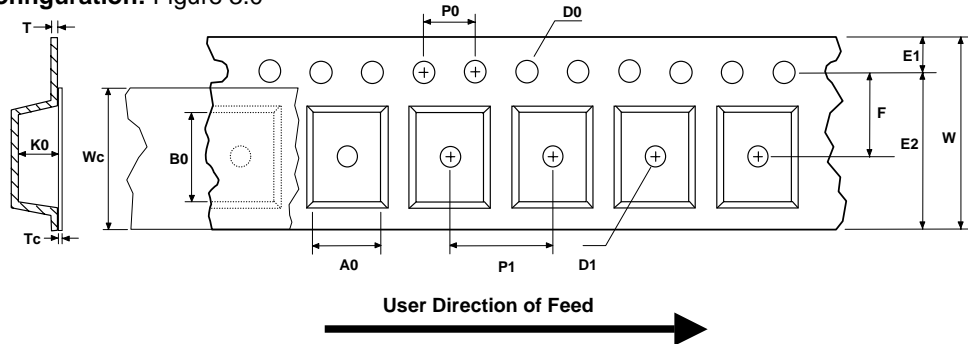


## DO-214AC(SMA) Tape Leader and Trailer Configuration: Figure 2.0



# DO-214AC(SMA) Tape and Reel Data, continued

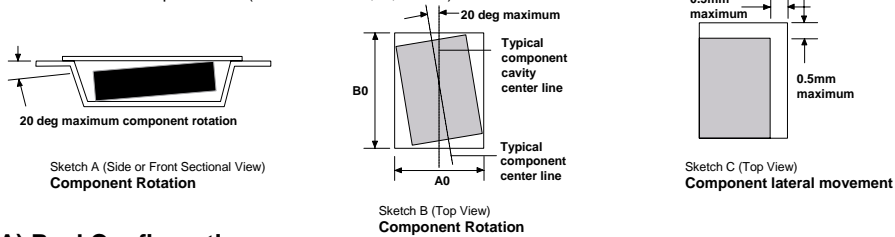
## DO-214AC(SMA) Embossed Carrier Tape Configuration: Figure 3.0



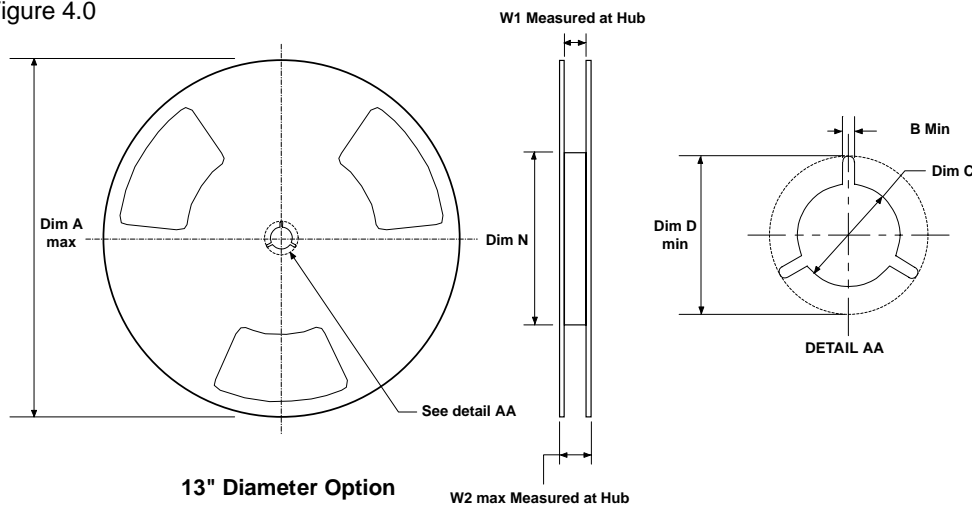
Dimensions are in millimeter

Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
DO-214AC(SMA) (12mm)	2.72 ±0.10	5.25 ±0.10	12.0 ±0.3	1.55 ±0.05	1.125 ±0.125	1.75 ±0.10	10.25 min	5.5 ±0.05	4.0 ±0.1	4.0 ±0.1	2.45 ±0.10	0.23 ±0.10	9.3 ±0.025	0.06 ±0.02

Notes: A0, B0, and K0 dimensions are determined with respect to the EIA/Jedec RS-481 rotational and lateral movement requirements (see sketches A, B, and C).



## DO-214AC(SMA) Reel Configuration: Figure 4.0



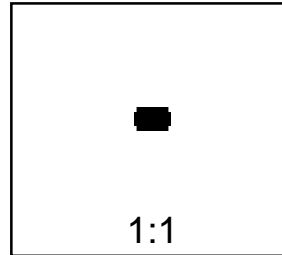
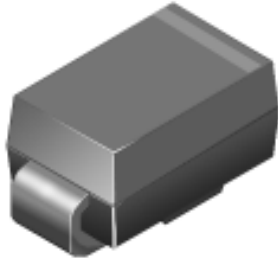
Dimensions are in inches and millimeters

Tape Size	Reel Option	Dim A	Dim B	Dim C	Dim D	Dim N	Dim W1	Dim W2
12mm	13" Dia	13.0 330	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	1.97 50 min	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4

# DO-214AC(SMA) Package Dimensions



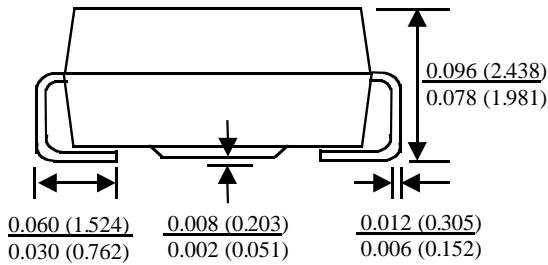
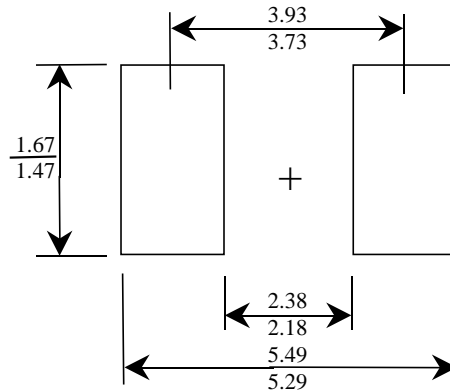
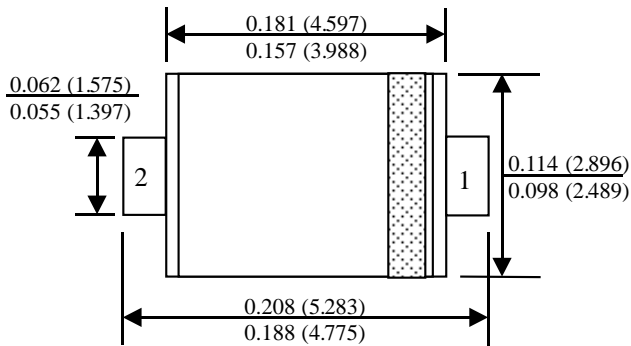
## DO-214AC(SMA) (FS PKG Code P5)



Scale 1:1 on letter size paper

Dimensions shown below are in:  
inches [millimeters]

Part Weight per unit (gram): 0.064



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