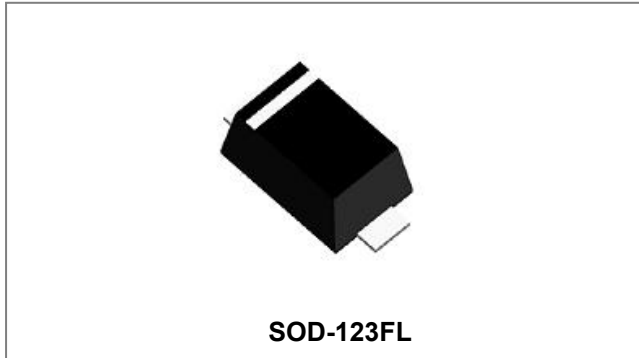


## DSS12U THRU DSS120U

### SINGLE PHASE 1.0AMP SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER



#### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High temperature soldering guaranteed: 260/10° C seconds, 0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

#### Circuit Diagram



#### Mechanical Data

- Case: SOD-123FL, molded plastic
- Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band dented cathode end
- Mounting Position: Any

#### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	DSS 12U	DSS 13U	DSS 14U	DSS 15U	DSS 16U	DSS 18U	DSS 110U	DSS 115U	DSS 120U	Units
	Marking Code	D12U	D13U	D14U	D15U	D16U	D18U	D110U	D115U	D120U	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	150	200	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	20	30	40	50	60	80	100	150	200	V
DC Blocking Voltage	V <sub>DC</sub>	20	30	40	50	60	80	100	150	200	V
RMS Reverse Voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	105	140	V
Average Rectified Output Current at T <sub>L</sub> =90°C	I <sub>F(AV)</sub>	1.0									A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on Rated load(JEDEC Method)	I <sub>FSM</sub>	40									A
I <sup>2</sup> t Rating for Fusing (t < 8.3ms)	I <sup>2</sup> t	6.640									A <sup>2</sup> s
Forward Voltage per element @I <sub>F</sub> =1.0A	V <sub>F</sub>	0.50			0.67		0.80		0.90		V
Peak Reverse Current T <sub>A</sub> =25 °C at rated DC blocking voltage T <sub>A</sub> =100 °C	I <sub>R</sub>	0.1				0.05				mA	
		10				5					
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	50				35				pF	
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	75									°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150									°C

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2. Device mounted on FR-4 substrate, 1"\*1", 2oz, single-sided, PC boards with 0.1"\*0.15" copper pad.

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Ratings and Characteristics Curves**

FIG. 1- FORWARD CURRENT DERATING CURVE

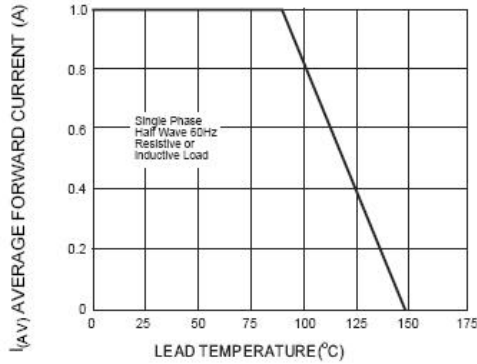


FIG. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

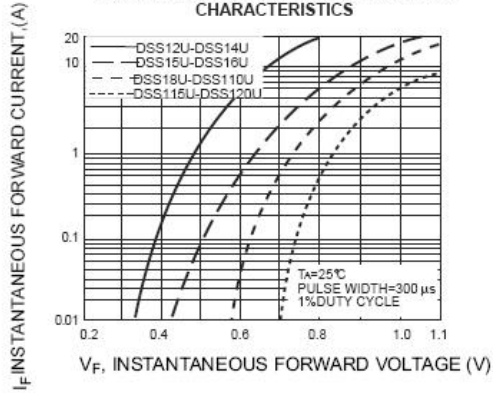


FIG. 3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

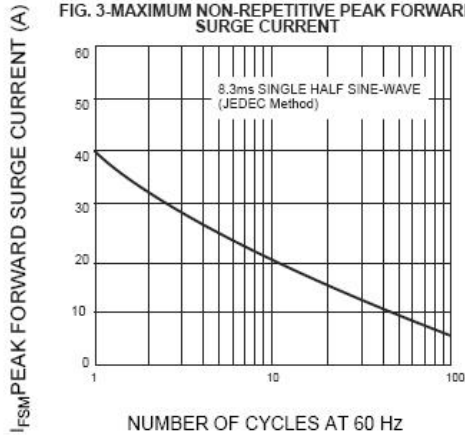


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

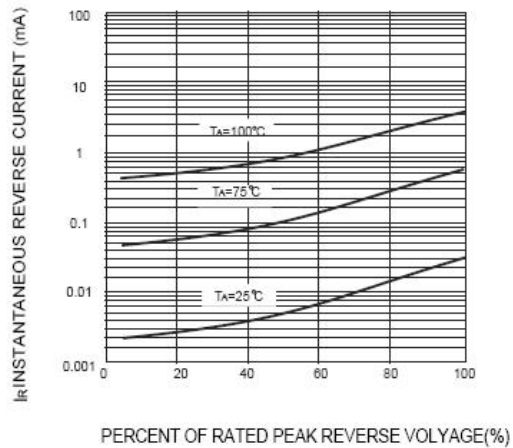
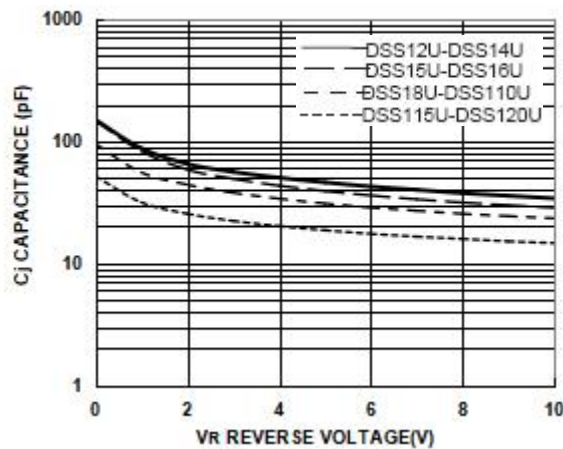
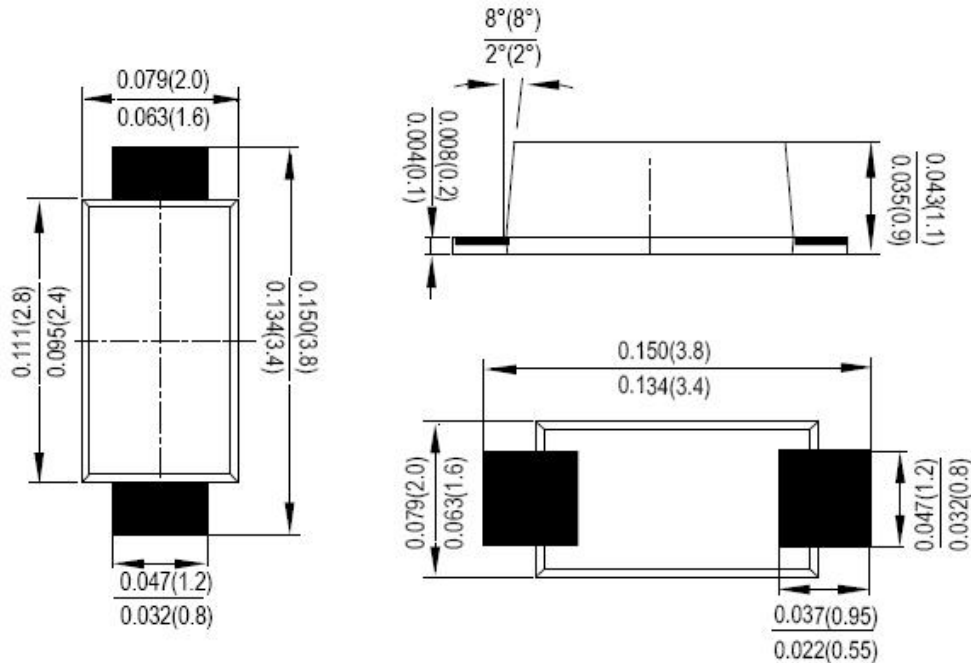


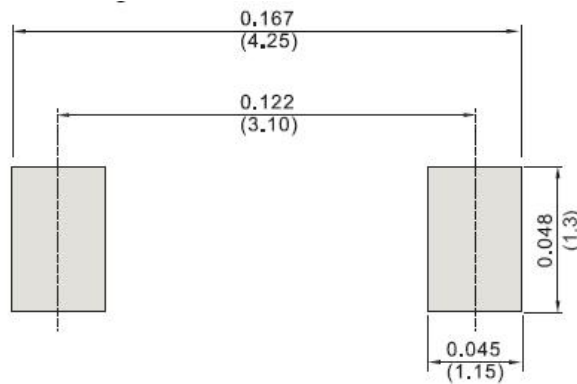
FIG. 5 - TYPICAL JUNCTION CAPACITANCE



**Mechanical Dimensions SOD-123FL(Inches/Millimeters)**



**Recommended Soldering Pattern (mm)**



**Ordering Information**

Device	Package	Shipping
DSS12U THRU DSS120U	SOD-123FL (Pb-Free)	3000pcs / reel

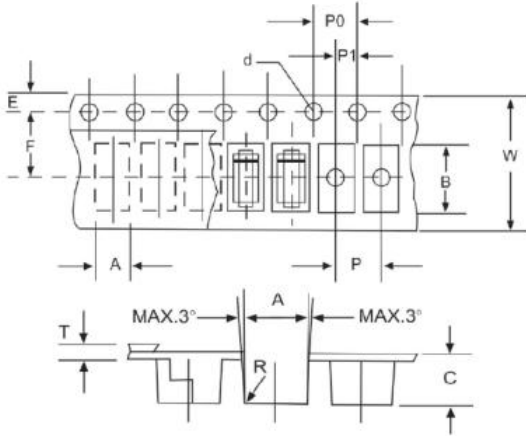
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**



D12U = Marking Code(See Table)

**Carrier Tape Specification SOD-123FL**



SYMBOL	Millimeters	
	Min.	Max.
A	1.95	2.15
B	3.85	4.05
C	1.35	1.55
d	1.50	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30



DSS12U  
THRU  
DSS120U

Technical Data  
Data Sheet N1873, Rev. C



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