Technical Data
Data Sheet N1985, Rev. A

S12U THRU S120U SCHOTTKY RECTIFIER

SMAF

Features

- Schottky Barrier Rectifier
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Surge Overload Rating to 35A Peak
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- 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: JEDEC SMAF molded plastic body
- Terminals: leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.038 grams
- Mounting Position: Any

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	S12U	S13U	S14U	S145U	S15U	S16U	S18U	S110U	S115U	S120U	Units
Maximum Repetitive Peak Reverse Voltage Maximum DC Blocking Voltage	V_{RRM} V_{DC}	20	30	40	45	50	60	80	100	150	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	31	35	42	56	70	105	140	V
Maximum Average Forward Rectified Current at T_L (see fig.1)	$I_{F(AV)}$	1.0										A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	35										A
I^2t Rating for Fusing (t < 8.3ms)	I^2t	5.084										A^2s
Maximum Instantaneous Forward Voltage @ I_F = 1.0A, T_J = 25°C	V_F	0.50				0.67		0.82		0.9		V
Maximum DC Reverse Current @T_J = 25°C	I_R	0.1						0.05				mA
At Rated DC Blocking Voltage @T_J = 100°C		10						5				
Typical Junction Capacitance(Note 1)	C_J	28										pF
Typical Thermal Resistance Junction to Lead(Note 2)	$R_{\theta JL}$	88										°C/W
Operating Temperature Range	T_J	-55 to +150										°C
Storage Temperature Range	T_{STG}	-55 to +150										°C

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. P.C.B. mounted with 0.2x0.2”(5.0x5.0mm) copper pad areas

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Ratings and Characteristics Curves

Fig. 1 Forward Current Derating Curve

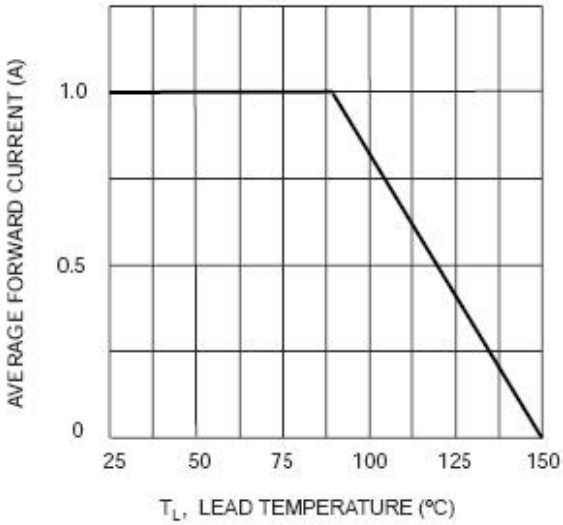


Fig. 2 Typ. Forward Characteristics

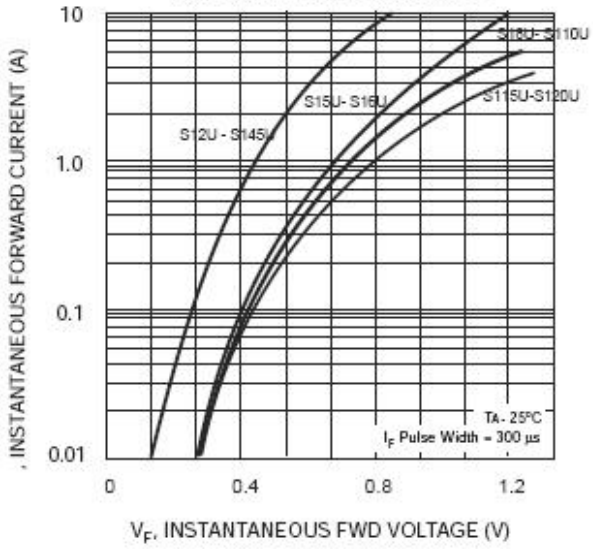


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

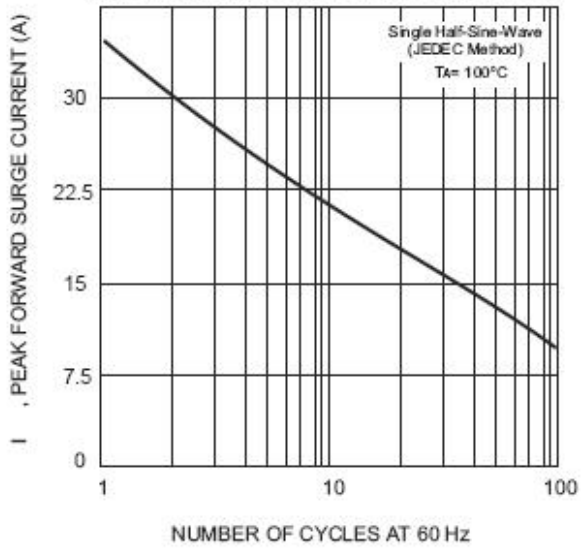
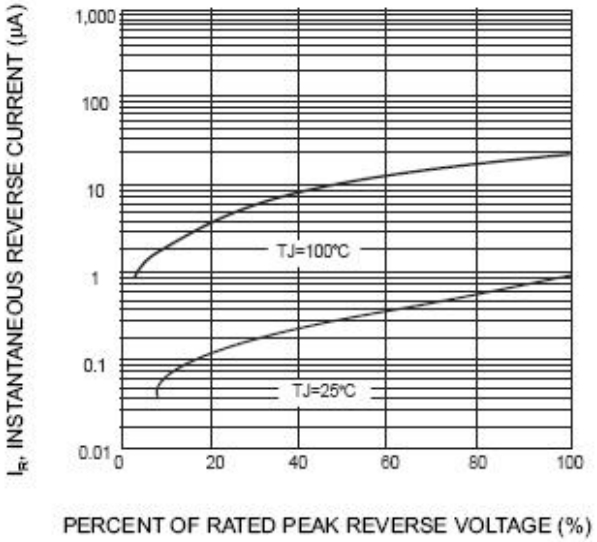


Fig. 4 Typical Reverse Characteristics (per element)



S12U
THRU
S120U

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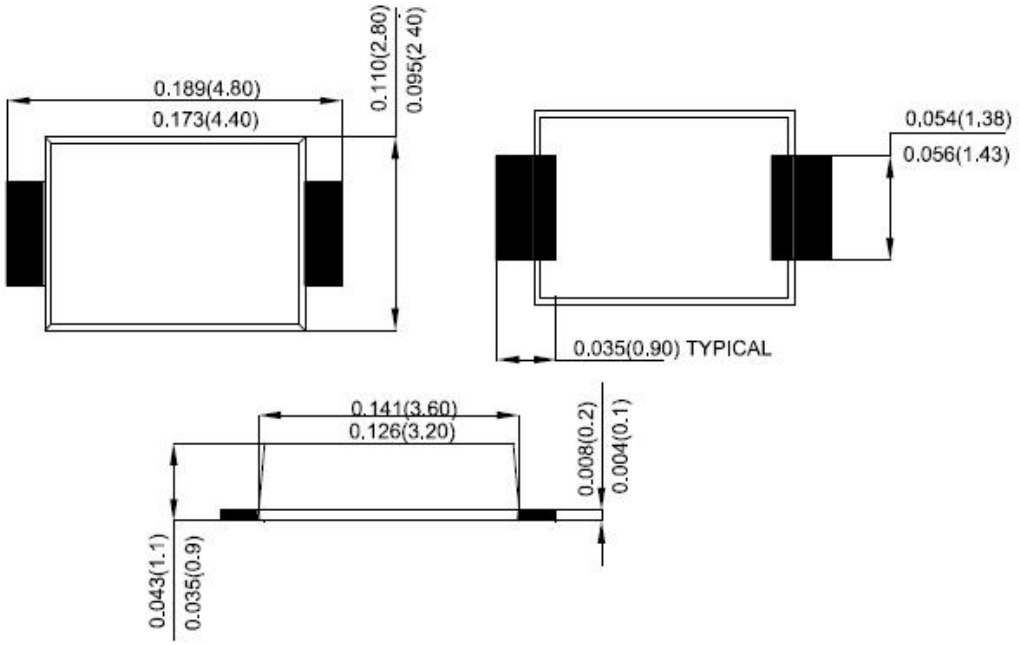
Mechanical Dimensions SMAF(Millimeters/Inches)

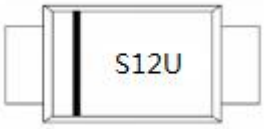


Ordering Information

Device	Package	Shipping
S12U THRU S120U	SMAF (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.

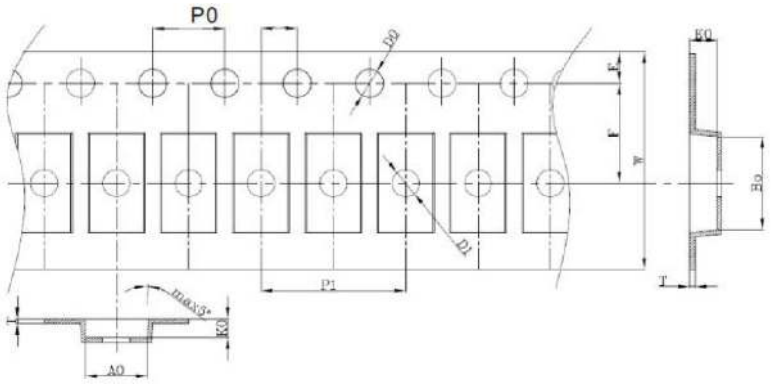
Marking Diagram



Where XXXXX is YYWWL
YYWWL date code marked on box.

S12U = Part Name
YY = Year
WW = Week
L = Lot Number

Carrier Tape Specification SMAF



SYMBOL	Millimeters	
	Min.	Max.
A0	2.83	3.03
B0	2.23	5.43
K0	1.23	1.43
P0	3.90	4.10
P1	3.90	4.10
P2	1.90	2.10
T	0.17	0.23
E	1.63	1.83
F	5.45	5.65
D0	1.50	1.60
D1	1.45	1.55
W	11.70	12.30

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