



# S52U THRU S525U

## 5.0 AMP SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

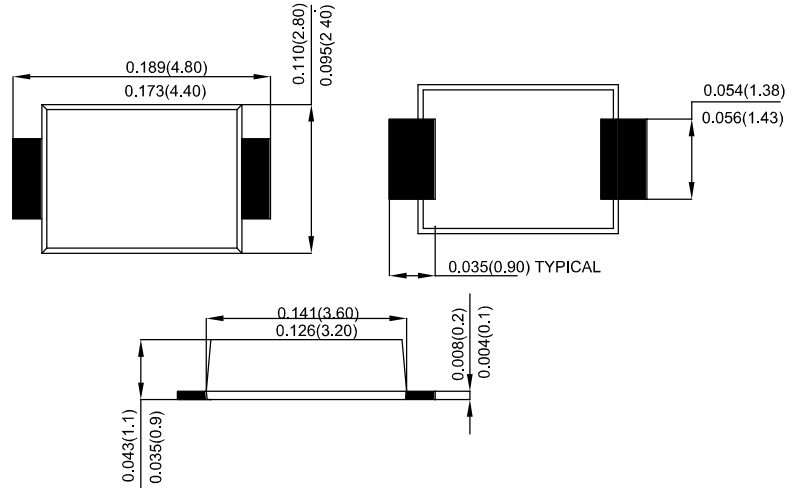
### Features

- Schottky Barrier Chip
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Surge Overload Rating to 110A Peak
- Plastic Case Material has UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: Molded plastic SMAF
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Making: Type Number

### SMAF



### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load

For capacitive load derate current by 20%

Type Number	SYMBOL	S 52U	S 53U	S 54U	S 545U	S 55U	S 56U	S 58U	S 510U	S 515U	S 520U	S 525U	Unit	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	45	50	60	80	100	150	200	250	V	
Maximum RMS Voltage	$V_{RMS}$	14	21	28	31	35	42	56	70	105	140	175	V	
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	45	50	60	80	100	150	200	250	V	
Average Rectified Output Current @ $T_L=90^\circ C$	$F_{(AV)}$	5.0											A	
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	110											A	
$I^2t$ Rating for Fusing ( $t < 8.3ms$ )	$I^2t$	50.215											A <sup>2</sup> s	
Forward Voltage @ $I_F=5.0A$	$V_{FM}$	0.53			0.67		0.82		0.90		0.92		V	
Peak Reverse Current @ $T_A=25^\circ C$	$I_R$	0.1						0.05						mA
At Rated DC Blocking Voltage @ $T_A=100^\circ C$		10						5						
Typical Junction Capacitance (Note 1)	$C_J$	220						115						pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	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 1.0 MHz and Applied reverse Voltage of 4.0V D.C

2. Device mounted on FR-4 substrate, 1"×1", 2oz, single-sided, PC boards with 0.06"×0.09" copper pad.



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Fig. 1 Forward Current Derating Curve

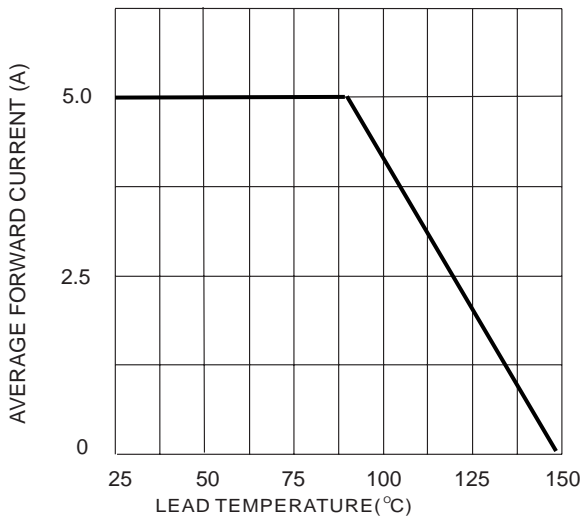


Fig. 2 Typ. Forward Characteristics

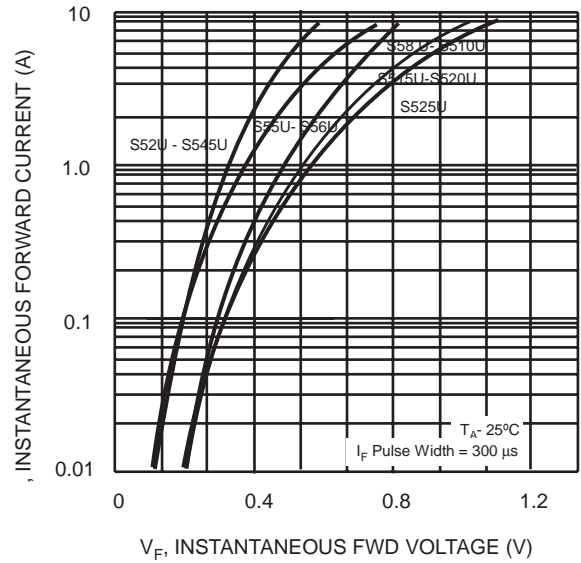


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

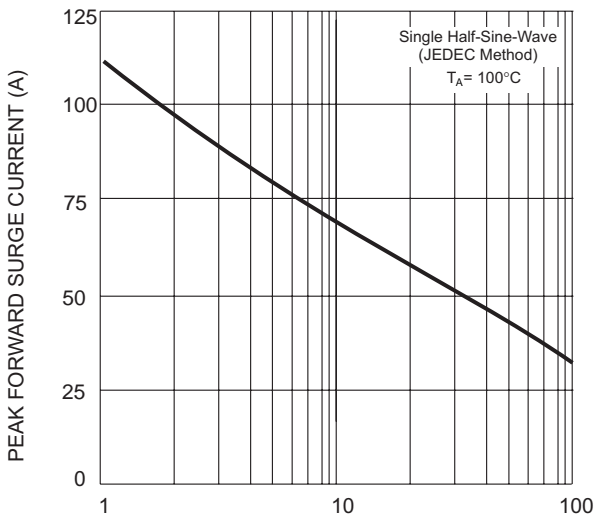


Fig. 4 T typical Reverse Characteristics (per element)

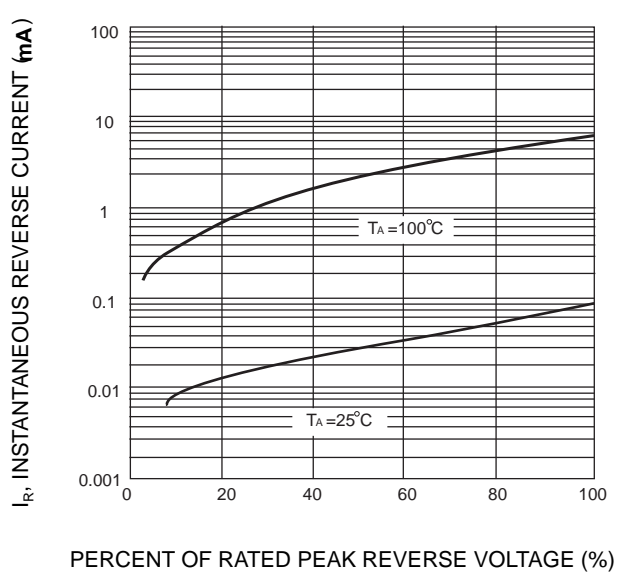
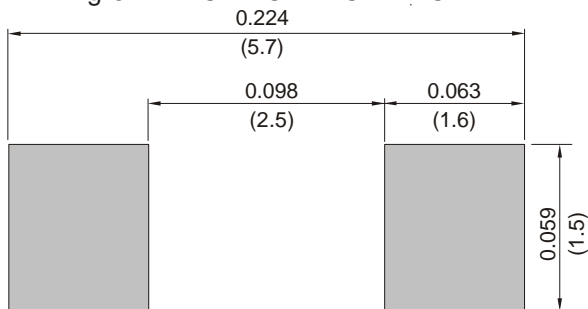


Fig.5 TYPICAL CAPACITANCE





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