

S12 THRU S125

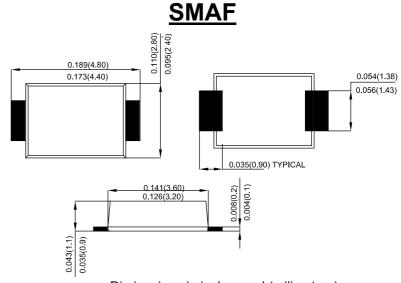
1.0 AMP SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- · Schottky Brrier Chip
- Low Power Loss, High Efficiency
- · Ideally Suited for Automatic Assembly
- · Surge Overload Rating to 30A 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: AnyMaking: Type Number



Dimiensions in inches and (milimeters)

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 | S12 | S13 | S14 | S145 | S15 | S16 | S18 | S110 | S115 | S120 | S125 | 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∟=90°C | I F(AV) | 1.0 | | | | | | | | | | Α | |
| Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | lгsм | 30 | | | | | | | | | | Α | |
| I ² t Rating for Fusing (t < 8.3ms) | l²t | 3.735 | | | | | | | | | | | A ² s |
| Forward Voltage @IF=1.0A (Note 1) | V _{FM} | 0.55 | | | 0 | .7 | | 0.85 | 0. | 92 | 0.95 | V | |
| Peak Reverse Current @TA =25°C | | 0.1 0.05 | | | | | | | | | | ^ | |
| At Rated DC Blocking Voltage @TA =100°C | l _R | 10 | | | | | | | | 5 | 5 | | mA |
| Typical Junction Capacitance | Сл | 28 | | | | | | | | | | | pF |
| Typical Thermal Resistance per leg (Note 2) | Re JL | 88 | | | | | | | | | | °C/W | |
| Operating Temperature Range | TJ | -55 to+150 | | | | | | | | | | $^{\circ}$ | |
| Storage Temperature Range | Tstg | -55 to +150 | | | | | | | | | | $^{\circ}$ | |

Note: 1.Pulse Test with PW=300usec,1%Duty Cycle.

2.Mounted on P.C.Board with 5.0 mm² (0.13mm thick) copper pad areas.



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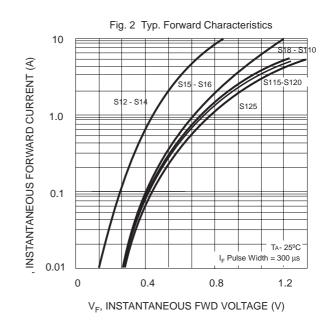
Fig. 1 Forward Current Derating Curve

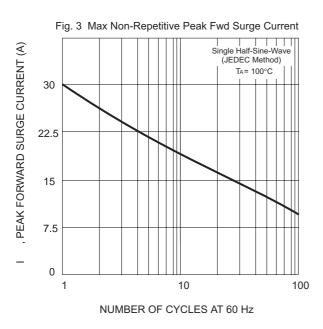
1.0

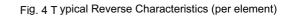
0.5

25 50 75 100 125 150

LEAD TEMPERATURE(°C)







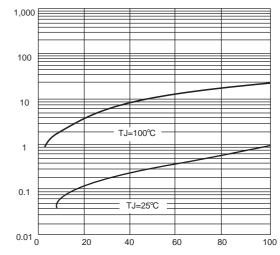
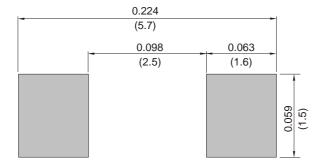


Fig.5 TYPICAL CAPACITANCE



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

 $I_{\rm R}$, INSTANTANEOUS REVERSE CURRENT (μA)



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