

Maximum Ratings $@T_A = 25^{\circ}C$ unless otherwise specified

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

| Characteristic | Symbol | Value | Unit |
|---|---|-------|------|
| Peak Repetitive Reverse Voltage (Note 5) Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _{RM} | 40 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 28 | V |
| Average Rectified Output Current (See Figure 1) | Io | 1.0 | А |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 5 | А |
| Non-Repetitive Peak Forward Surge Current 15s Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 2.6 | А |

Thermal Characteristics

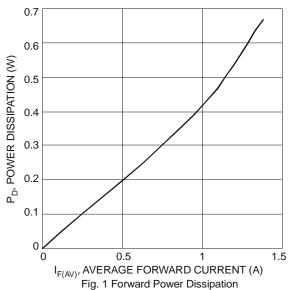
| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation | PD | 400 | mW |
| Maximum Thermal Resistance Junction to Ambient (Note 6) | $R_{	heta JA}$ | 190 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Тур | Max | Unit | Test Condition |
|--------------------------|----------------|-----|------|------|------|---|
| Forward Voltage Drop | VF | - | 0.39 | 0.42 | V | I _F = 0.5A, T _J = 25°C |
| | | - | 0.46 | 0.49 | | $I_F = 1.0A, T_J = 25^{\circ}C$ |
| | | - | 0.34 | 0.37 | | I _F = 0.5A, T _J = 125°C |
| | | - | 0.43 | 0.47 | | I _F = 1.0A, T _J = 125°C |
| Leakage Current (Note 7) | I _R | - | - | 50 | μΑ | $V_R = 40V, T_J = 25^{\circ}C$ |
| | | - | - | 100 | mA | V _R = 40V, T _J = 125°C |

Notes:

 $\begin{array}{l} 5. \ V_{\text{RRM}} \ characteristic is base on 1mA leakage current test condition \\ 6. \ Device mounted on Polymide substrate 1" x 1", 2oz. Copper double sided PCB board. \\ 7. \ Short \ duration \ pulse test \ used to minimize \ self-heating effect. \end{array}$



I_F, INSTANTANEOUS FORWARD CURRENT (A) $T_A = 25^{\circ}C$ 0.001 $T_{\Delta} = -55^{\circ}C$ 0.0001 0.1 0.2 0.3 0.5 0.4 0 V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics

0.1 T_A

0.01

= 150°C T∆

 $T_A = 85^{\circ}C$

= 125°C

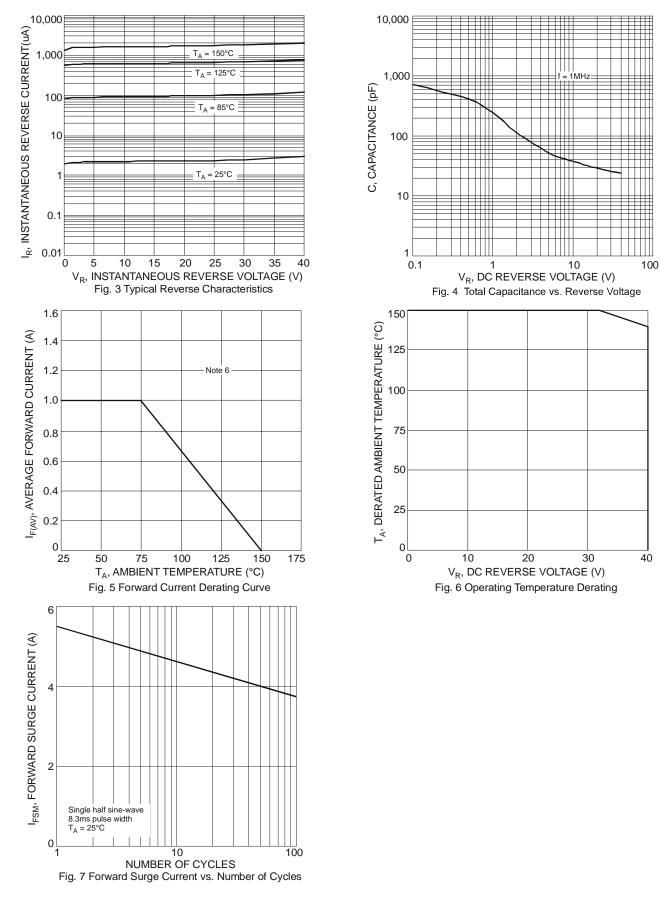
0.8

0.6

0.7



SBR1U40LP

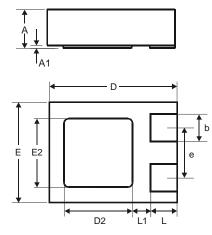


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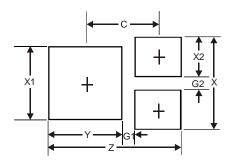


Package Outline Dimensions



| X1-DFN1411-3 | | | |
|----------------------|-------|-------|-------|
| Dim | Min | Max | Тур |
| Α | 0.47 | 0.53 | 0.50 |
| A1 | 0 | 0.05 | 0.02 |
| b | 0.25 | 0.35 | 0.30 |
| D | 1.35 | 1.475 | 1.40 |
| D2 | 0.65 | 0.85 | 0.75 |
| ш | 1.05 | 1.175 | 1.10 |
| E2 | 0.65 | 0.85 | 0.75 |
| e | | | 0.55 |
| L | 0.225 | 0.325 | 0.275 |
| L1 | | | 0.20 |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 1.38 |
| G1 | 0.15 |
| G2 | 0.15 |
| Х | 0.95 |
| X1 | 0.75 |
| X2 | 0.40 |
| Ŷ | 0.75 |
| С | 0.76 |



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