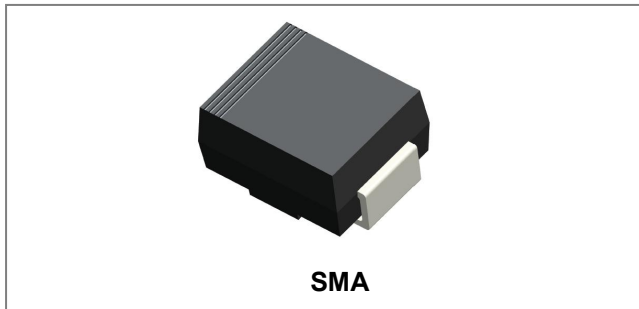


15MQ040N SCHOTTKY RECTIFIER



Features

- Small foot print, surface mountable
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Disk Drives
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Battery Charging

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-------------|--|------|-------|
| Peak Repetitive Reverse Voltage | V_{RRM} | - | 40 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | |
| DC Blocking Voltage | V_R | | | |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_L = 105^\circ\text{C}$, rectangular wave form On PC board 9mm ² island | 2.1 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine pulse | 60 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|---------------------------|----------|--|--------------|--------------|------------------|
| Forward Voltage Drop* | V_{F1} | @ 1 A, Pulse, $T_J = 25^\circ\text{C}$ @ 2 A, Pulse, $T_J = 25^\circ\text{C}$ | 0.38 0.42 | 0.42 0.49 | V |
| | V_{F2} | @ 1 A, Pulse, $T_J = 100^\circ\text{C}$ @ 2 A, Pulse, $T_J = 100^\circ\text{C}$ | - - | 0.34 0.43 | V |
| Reverse Current* | I_{R1} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$ | 0.03 | 1.0 | mA |
| | I_{R2} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$ | - | 20 | mA |
| Junction Capacitance | C_T | @ $V_R = 10\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 95 | 134 | PF |
| Typical Series Inductance | L_S | Measured lead to lead 5 mm from package body | 2.0 | - | nH |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/ μs |

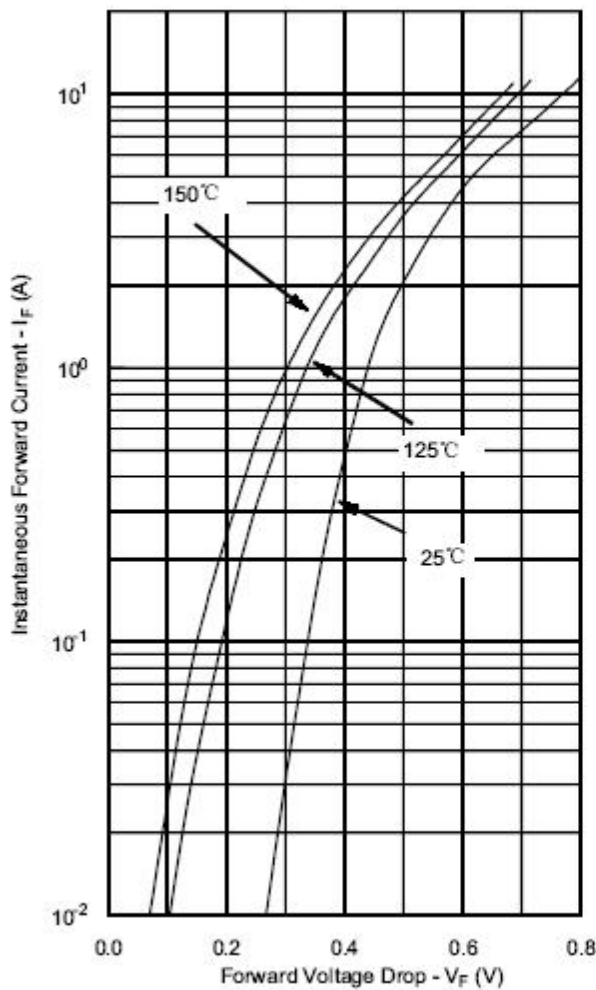
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

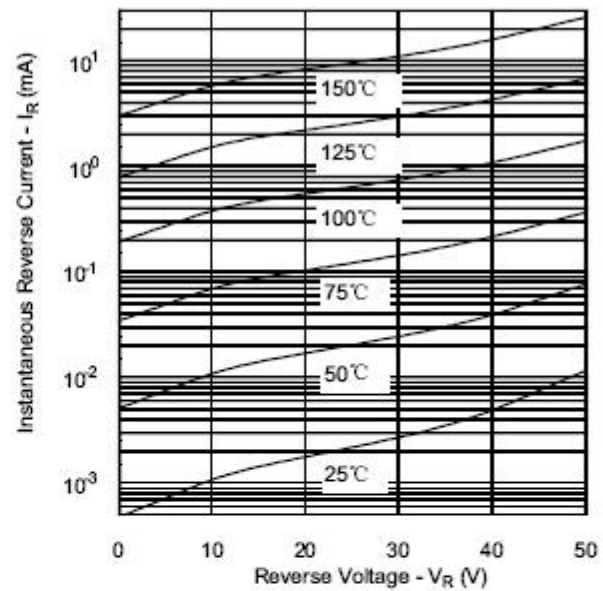
| Characteristics | Symbol | Condition | Specification | Units |
|--|------------------|-----------|---------------|----------------------|
| Junction Temperature | T_J | - | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | - | 80 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 0.06 | g |
| Case Style | | SMA | | |

Ratings and Characteristics Curves

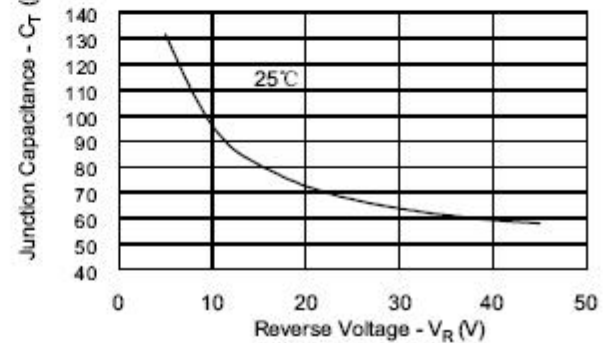
Typical Forward Characteristics



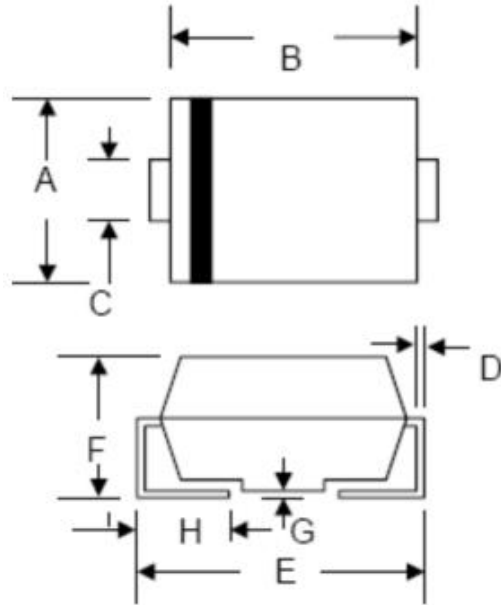
Typical Reverse Characteristics



Typical Junction Capacitance



Mechanical Dimensions SMA



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.40 | 2.84 | 0.094 | 0.112 |
| B | 3.99 | 4.75 | 0.157 | 0.187 |
| C | 1.05 | 1.70 | 0.041 | 0.067 |
| D | 0.15 | 0.51 | 0.006 | 0.020 |
| E | 4.80 | 5.66 | 0.189 | 0.223 |
| F | 1.90 | 2.95 | 0.075 | 0.116 |
| G | 0.05 | 0.203 | 0.002 | 0.008 |
| H | 0.76 | 1.52 | 0.030 | 0.600 |


Ordering Information

| Device | Package | Shipping |
|----------|---------------|----------------|
| 15MQ040N | SMA (Pb-Free) | 5000pcs / 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

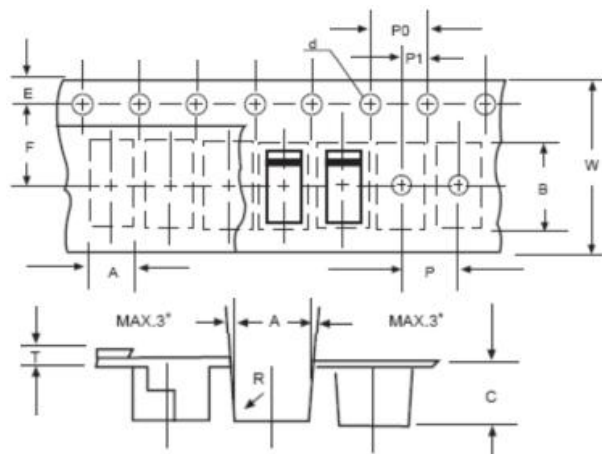
Where XXXXX is YYWWL



S = Device Type
 D = Package Type
 15 = Forward Current (1.5A)
 F = Reverse Voltage (40V)
 YY = Year
 WW = Week
 L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape & Reel Specification SMA



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 2.97 | 3.17 |
| B | 5.70 | 5.90 |
| C | 2.32 | 2.52 |
| d | 1.40 | 1.60 |
| E | 1.40 | 1.60 |
| F | 5.60 | 5.70 |
| P | 3.90 | 4.10 |
| P0 | 3.90 | 4.10 |
| P1 | 1.90 | 2.10 |
| T | 0.25 | 0.35 |
| W | 11.80 | 12.20 |

Technical Data
Data Sheet N0021, Rev. B



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