

Technical Data
Data Sheet N1566, Rev. -

Green Products

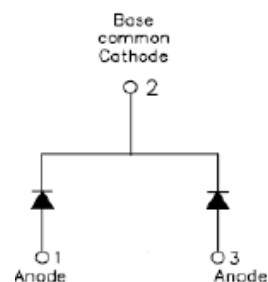
20CWQ10FN SCHOTTKY RECTIFIER

Applications:

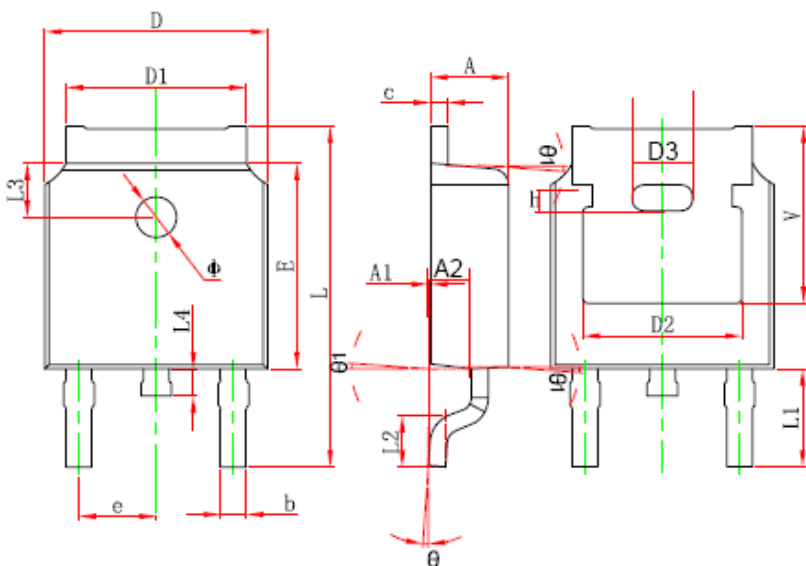
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 175 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- 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



Mechanical Dimensions (In mm / Inches) and Marking:



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.380 | 0.087 | 0.094 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| b | 0.710 | 0.810 | 0.028 | 0.032 |
| c | 0.460 | 0.560 | 0.018 | 0.022 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.130 | 5.460 | 0.202 | 0.215 |
| D2 | 4.830 REF. | | 0.190 REF. | |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.800 | 10.400 | 0.386 | 0.409 |
| L1 | 2.900 REF. | | 0.114 REF. | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| L3 | 1.600 REF. | | 0.063 REF. | |
| L4 | 0.600 | 1.000 | 0.024 | 0.039 |
| φ | 1.100 | 1.300 | 0.043 | 0.051 |
| θ | 0° | 8° | 0° | 8° |
| A2 | 0.910 | 1.110 | 0.036 | 0.044 |
| V | 5.350 REF. | | 0.211 REF. | |
| D3 | 1.778REF. | | 0.070REF. | |
| h | 0.762REF. | | 0.030REF. | |
| θ1 | 7° | | 7° | |

DPAK



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Marking Diagram:



Where XXXXX is YYWWL

- 20 = Forward Current (20A)
- CW = Configuration
- Q = Device Type
- 100 = Reverse Voltage (100V)
- FN = Package type
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Ordering Information:

| Device | Package | Shipping |
|-----------|-------------------|----------------|
| 20CWQ10FN | DPAK (Pb-Free) | 2500pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-------------|---|------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 100 | V |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C=159^\circ\text{C}$, rectangular wave form | 20 | A |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 100 | A |



Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-----------------|---|--------|-------|
| Forward Voltage Drop (per leg) * | V _{F1} | @ 10A, Pulse, T _J = 25 °C | 0.85 | V |
| | V _{F2} | @ 10A, Pulse, T _J = 125 °C | 0.75 | V |
| Reverse Current at DC condition (per leg) | I _{R1} | @V _R = rated V _R T _J = 25 °C | 1.0 | mA |
| Reverse Current (per leg) * | I _{R2} | @V _R = rated V _R T _J = 125 °C | 6.0 | mA |
| Junction Capacitance (per leg) | C _T | @V _R = 5V, T _C = 25 °C f _{sig} = 1MHz | 250 | pF |
| Typical Series Inductance (per leg) | L _S | Measured lead to lead 5 mm from package body | 8.0 | nH |
| Voltage Rate of Change | dv/dt | - | 10,000 | V/μs |

Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|------------------|--------------|---------------|-------|
| Junction Temperature | T _J | - | -55 to +175 | °C |
| Storage Temperature | T _{stg} | - | -55 to +175 | °C |
| Maximum Thermal Resistance Junction to Case (per leg) | R _{θJC} | DC operation | 3.5 | °C/W |
| Approximate Weight | wt | - | 0.39 | g |
| Case Style | DPAK | | | |

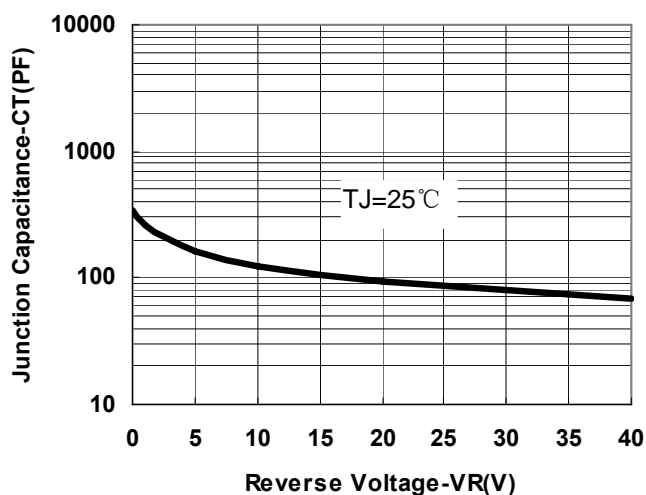


Fig.1-Typical Junction Capacitance

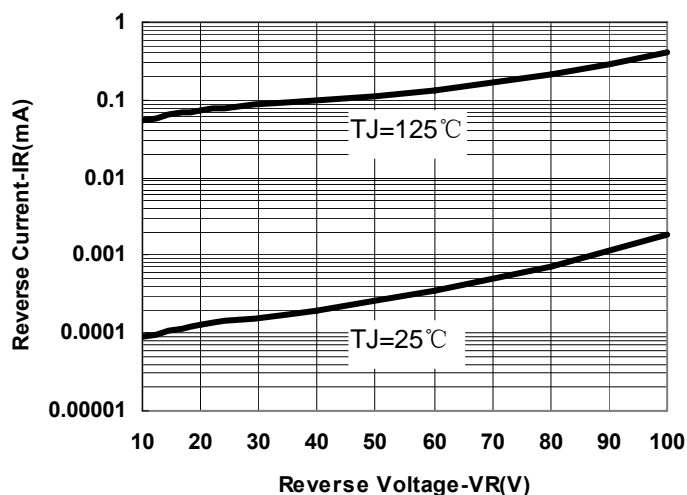


Fig.2-Typical Reverse Characteristics

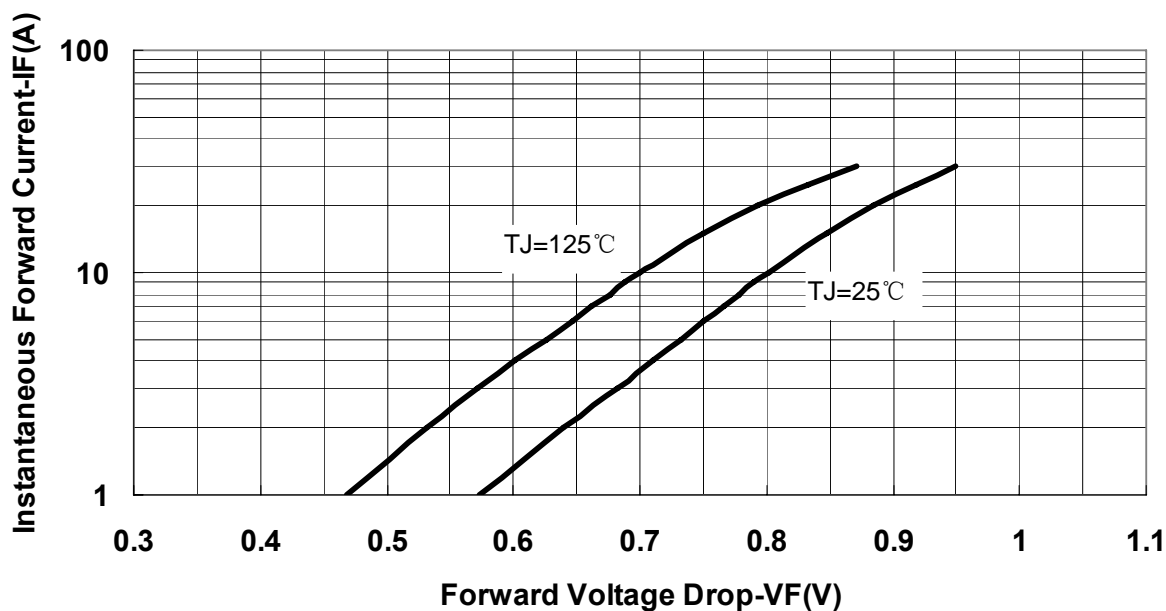


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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