

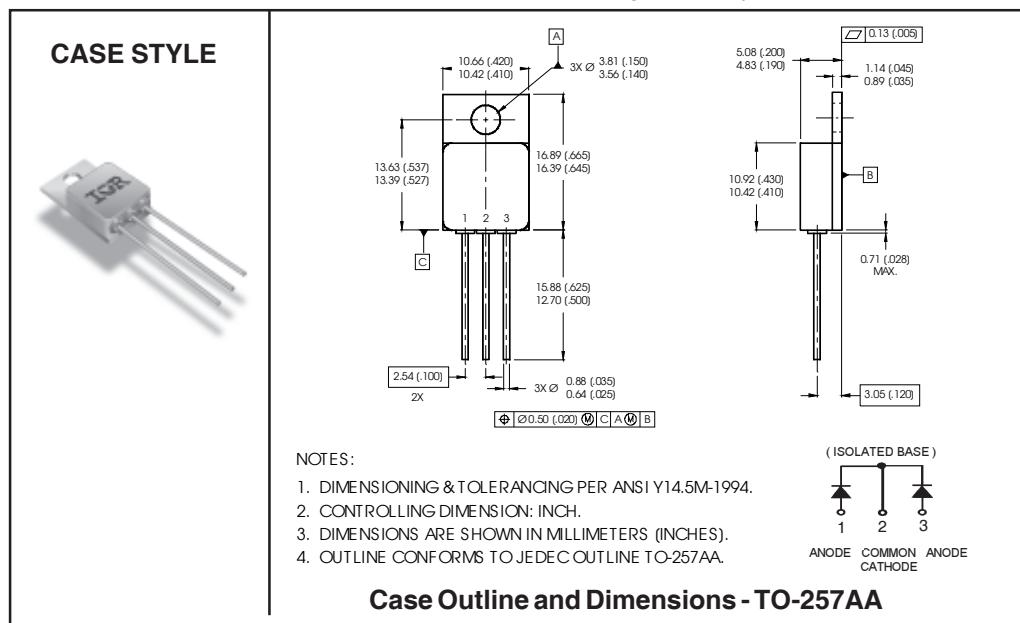
Major Ratings and Characteristics

| Characteristics | 1N7070CCT3 | Units |
|---|------------|------------|
| $I_{F(AV)}$ | 16 | A |
| V_{RRM} (Per Leg) | 100 | V |
| I_{FSM} @ $t_p = 8.3ms$ half-sine (Per Leg) | 250 | A |
| V_F @ 16Apk, $T_J = 125^\circ C$ (Per Leg) | 0.85 | V |
| T_J, T_{stg} Operating and storage | -65 to 150 | $^\circ C$ |

Description/Features

The 1N7070CCT3 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliability environments. It is packaged in the hermetic isolated TO-257AA package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

- Hermetically Sealed
- Ceramic Eyelets
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020



Voltage Ratings

| | | |
|------------------|---|------------|
| | Part number | 1N7070CCT3 |
| V _R | Max. DC Reverse Voltage (V) (Per Leg) | 100 |
| V _{RWM} | Max. Working Peak Reverse Voltage (V) (Per Leg) | |

Absolute Maximum Ratings

| | Parameters | Limits | Units | Conditions |
|--------------------|---|--------|-------|--|
| I _{F(AV)} | Max. Average Forward Current See Fig. 5 | 16 | A | 50% duty cycle @ T _C = 110°C, square waveform |
| I _{FSM} | Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg) | 250 | A | @ t _p = 8.3 ms half-sine |

Electrical Specifications

| | Parameters | Limits | Units | Conditions | |
|-----------------|--|--------|-------|--|---------------------------------------|
| V _{FM} | Max. Forward Voltage Drop (Per Leg) See Fig. 1 ① | 0.77 | V | @ 8.0A | T _J = -55°C |
| | | 0.98 | V | @ 16A | |
| | | 0.75 | V | @ 8.0A | T _J = 25°C |
| | | 0.95 | V | @ 16A | |
| | | 0.66 | V | @ 8.0A | T _J = 125°C |
| | | 0.85 | V | @ 16A | |
| I _{RM} | Max. Reverse Leakage Current (Per Leg) See Fig. 2 ① | 0.01 | mA | T _J = 25°C | V _R = rated V _R |
| | | 10 | mA | T _J = 125°C | |
| C _T | Max. Junction Capacitance (Per Leg) | 430 | pF | V _R = 5V _{DC} (1MHz, 25°C) | |
| L _S | Typical Series Inductance (Per Leg) | 7.8 | nH | Measured from anode lead to cathode lead 6mm (0.025 in.) from package | |

Thermal-Mechanical Specifications

| | Parameters | Limits | Units | Conditions |
|-------------------|--|------------|-------|-------------------------|
| T _J | Max. Junction Temperature Range | -65 to 150 | °C | |
| T _{stg} | Max. Storage Temperature Range | -65 to 150 | °C | |
| R _{thJC} | Max. Thermal Resistance, Junction to Case (Per Leg) | 2.0 | °C/W | DC operation See Fig. 4 |
| R _{thJC} | Max. Thermal Resistance, Junction to Case (Per Package) | 1.0 | °C/W | DC operation |
| wt | Weight (Typical) | 4.3 | g | |
| | Die Size (Typical) | 105 X125 | mils | |
| | Case Style | T0-257AA | | |

① Pulse Width < 300μs, Duty Cycle < 2%

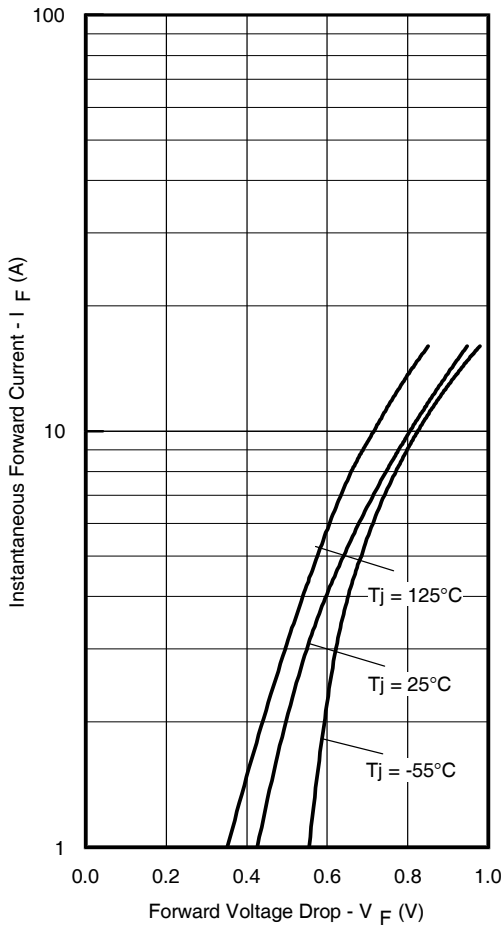


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

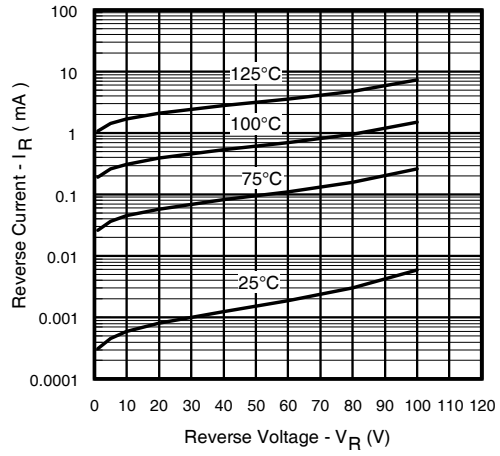


Fig. 2 - Typical Reverse Current Vs. Reverse Voltage (Per Leg)

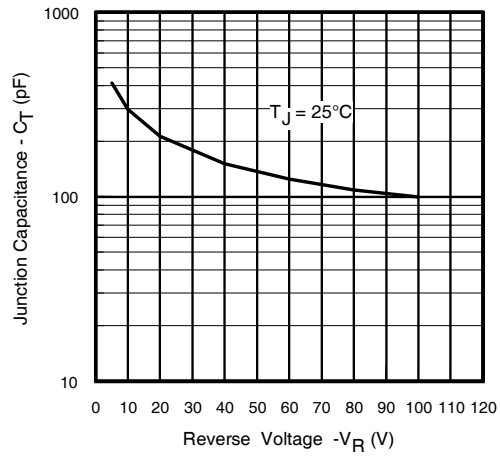


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

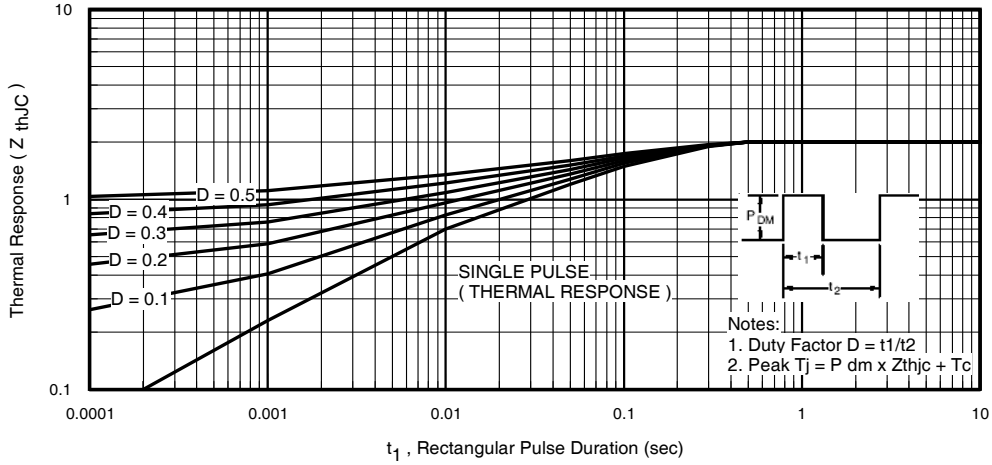


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

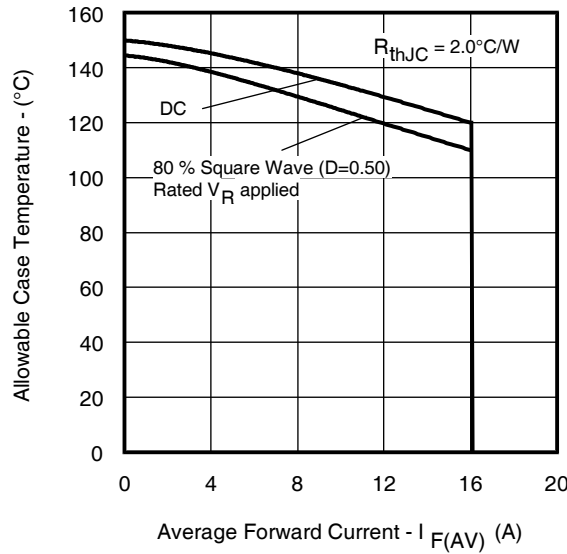


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)