

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

16YQ150C
16 Amp, 150V

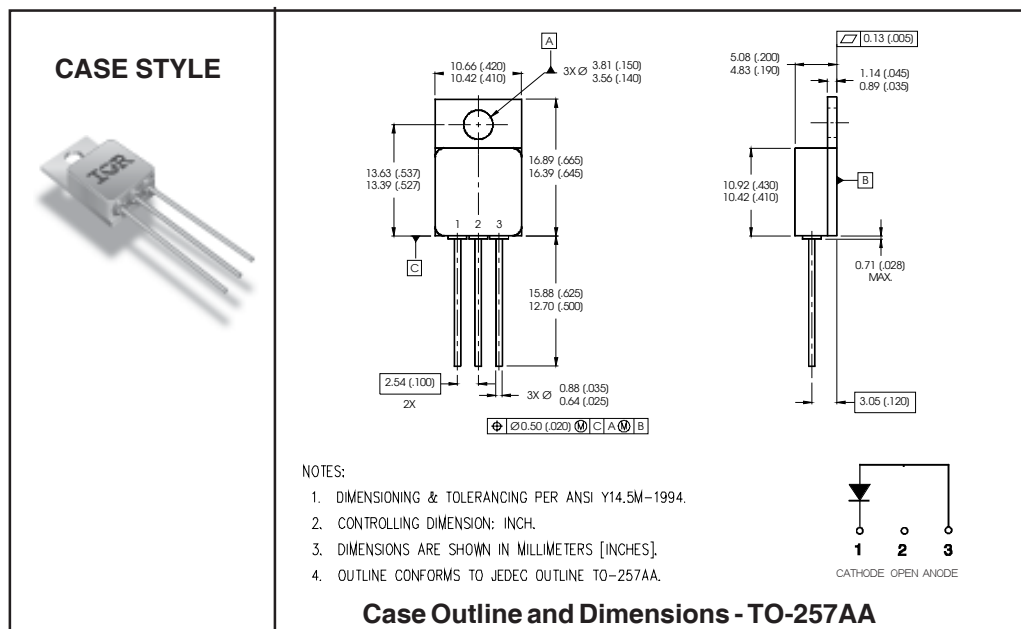
Major Ratings and Characteristics

Characteristics	16YQ150C	Units
$I_{F(AV)}$	16	A
V_{RRM}	150	V
I_{FSM} @ $t_p = 8.3ms$ half-sine	200	A
V_F @ 16Apk, $T_J = 125^\circ C$	0.87	V
T_J, T_{stg} Operating and storage	-55 to 150	$^\circ C$

Description/Features

The 16YQ150C Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetic isolated TO-257AA ceramic 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 levels.

- Hermetically Sealed
- Ceramic Eyelets
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight



Voltage Ratings

Part number	16YQ150C
V_R Max. DC Reverse Voltage (V)	150
V_{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	16	A	50% duty cycle @ $T_C = 124^\circ\text{C}$, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	200	A	@ $t_p = 8.3$ ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions
V_{FM} Max. Forward Voltage Drop See Fig. 1①	1.10	V	@ 16A $T_J = -55^\circ\text{C}$
	1.38	V	@ 32A
	0.97	V	@ 16A $T_J = 25^\circ\text{C}$
	1.26	V	@ 32A
	0.87	V	@ 16A $T_J = 125^\circ\text{C}$
	1.22	V	@ 32A
I_{RM} Max. Reverse Leakage Current See Fig. 2①	0.1	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$
	16	mA	$T_J = 125^\circ\text{C}$
C_T Max. Junction Capacitance	800	pF	$V_R = 5V_{DC}$ (1MHz, 25°C)
L_S Typical Series Inductance	9.8	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	-55 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$	DC operation See Fig. 4
wt Weight (Typical)	4.3	g	
Die Size (Typical)	158X158	mils	
Case Style	TO-257AA		

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

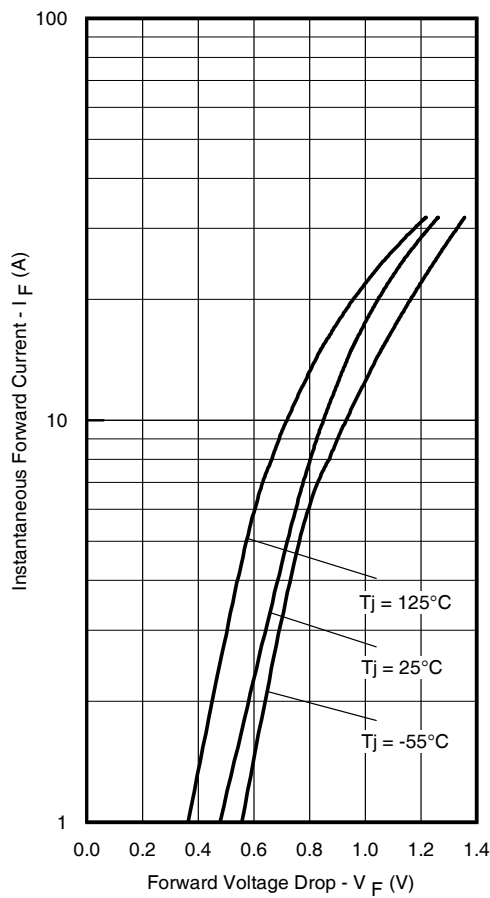


Fig. 1 - Max. Forward Voltage Drop Characteristics

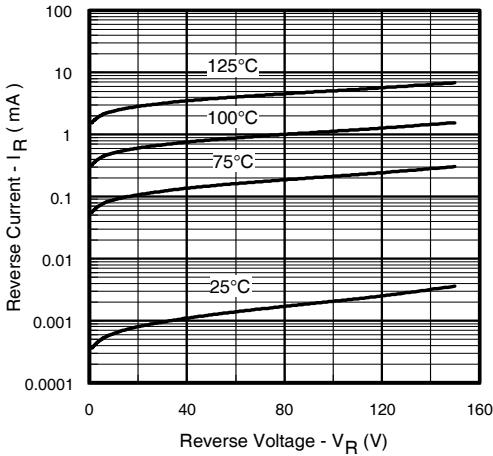


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

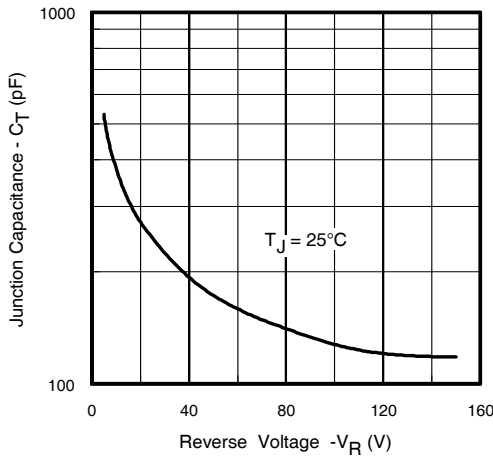
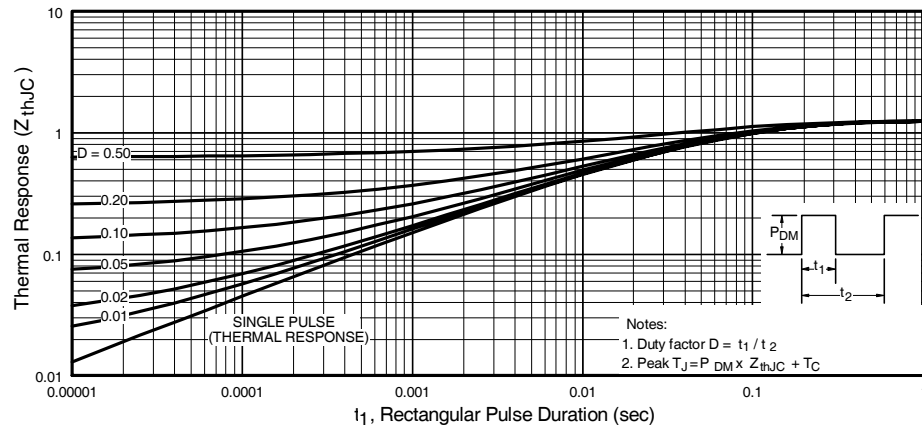
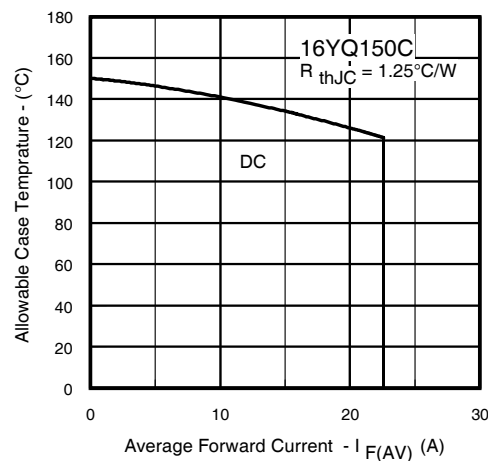


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

Fig. 4 - Max. Thermal Impedance Z_{thJC} CharacteristicsFig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current