PD - 94218A

International
IOR Rectifier

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} @ tp = 8.3ms half-sine	200	A
V_F @ 16Apk, T_J =125°C	0.87	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

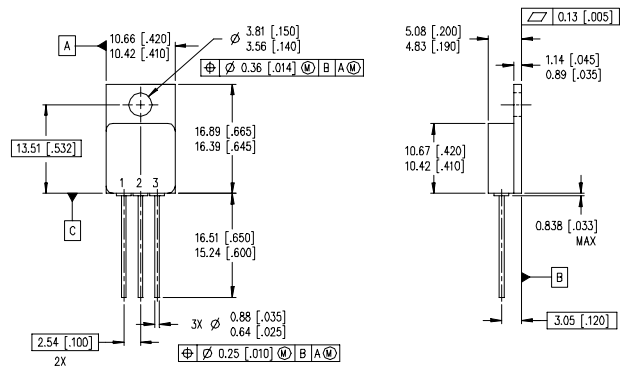
Description/Features

The 16YQ150C Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel 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 resonent 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

CASE STYLE





NOTES:
1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M–1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
4. OUTLINE CONFORMS TO JEDEC OUTLINE TO-257AA.

IR Case Style TO-257AA

7/13/01

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 °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°C
		1.36	V	@ 32A	
		0.97	V	@ 16A	T_J = 25°C
		1.26	V	@ 32A	
		0.87	V	@ 16A	T_J = 125°C
		1.22	V	@ 32A	
I_{RM}	Max. Reverse Leakage Current See Fig. 2①	0.1	mA	T_J = 25°C	V_R = rated V_R
		3.0	mA	T_J = 100°C	
		16	mA	T_J = 125°C	
C_T	Max. Junction Capacitance	590	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	°C	
T_{stg}	Max. Storage Temperature Range	-55 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case	1.25	°C/W	DC operation See Fig. 4
wt	Weight (Typical)	4.3	g	
	Die Size (Typical)	150X180	mils	
	Case Style	TO-257AA		

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

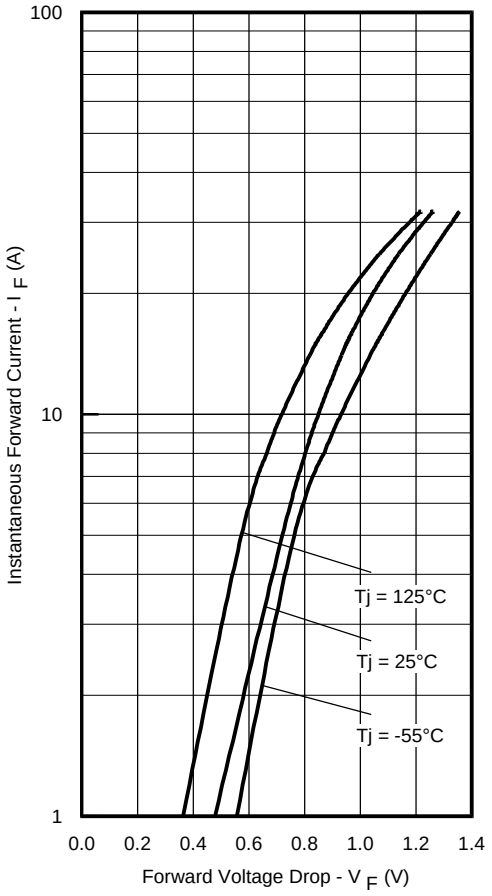


Fig. 1 - Max. Forward Voltage Drop Characteristics

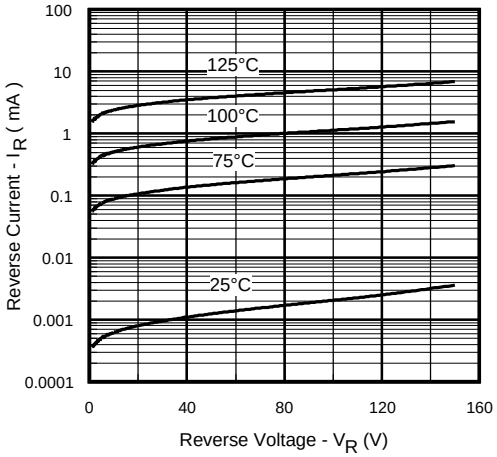


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

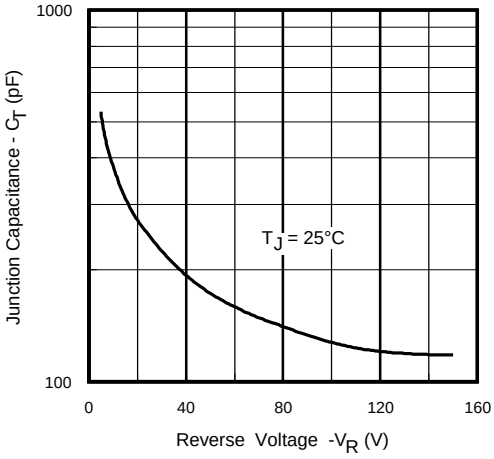


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

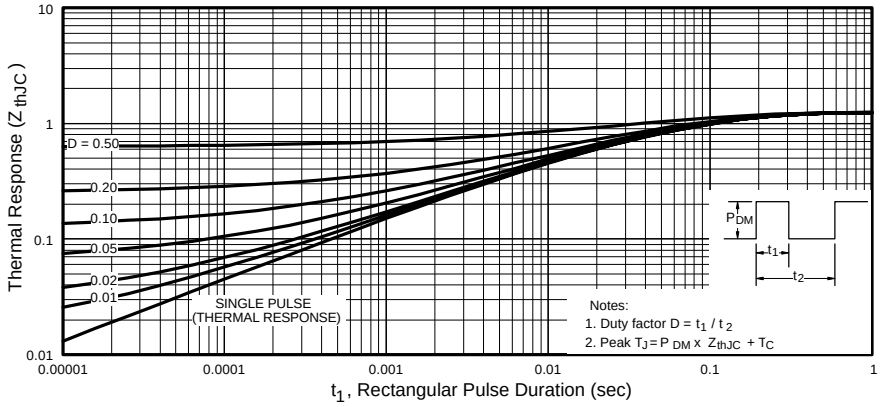


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

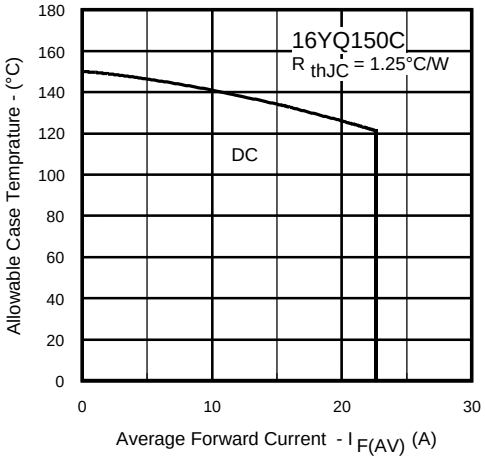


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current