16SYQ060C

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

16 Amp. 60V

Major Ratings and Characteristics

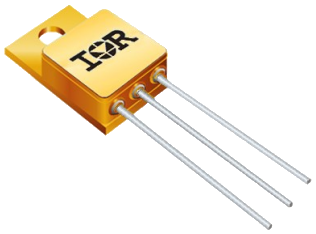
Characteristics	16SYQ060C	Units
$I_{F(AV)}$	16	A
V_{RRM}	60	V
I_{FSM} @ tp = 8.3ms half–sine	250	A
V_F @ I_F = 16Apk, T_J = 125°C	0.63	V
T_J, T_{STG} Operating and storage	-55 to 150	°C

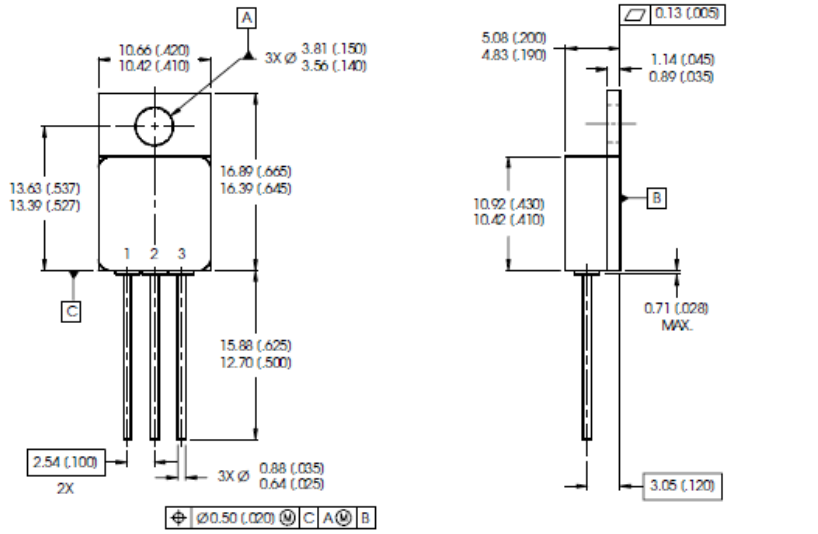
Description/Features

The 16SYQ060C 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 resonent 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

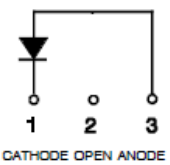
CASE STYLE





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.



Case Outline and Dimensions - TO-257AA

Voltage Ratings

Part Number	16SYQ060C
V_R DC Reverse Voltage (V), maximum	60
V_{RRM} Working Peak Reverse Voltage (V), maximum	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Maximum Average Forward Current See Fig. 5	16	A	50% duty cycle @ T_C = 125°C, square waveform
I_{FSM} Maximum Peak One Cycle Non - Repetitive Surge Current	250	A	tp = 8.3 ms half-sine

Electrical Specifications

Parameter	Limits	Units	Conditions	
V_{FM} Maximum Forward Voltage Drop See Fig. 1 ①	0.66	V	I_F = 16A	T_J = -55°C
	0.87	V	I_F = 32A	
	0.65	V	I_F = 16A	T_J = 25°C
	0.94	V	I_F = 32A	
	0.63	V	I_F = 16A	T_J = 125°C
	1.04	V	I_F = 32A	
I_{RM} Maximum Reverse Leakage Current See Fig. 2①	0.5	mA	T_J = 25°C	V_R = rated V_R
	50	mA	T_J = 100°C	
	275	mA	T_J = 125°C	
C_J Maximum Junction Capacitance	2100	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

Parameter	Limits	Units	Conditions
T_J Maximum Junction Temperature Range	-55 to 150	°C	
T_{stg} Maximum Storage Temperature Range	-55 to 150	°C	
R_{thJC} Maximum Thermal Resistance, Junction to Case	1.15	°C/W	DC operation See Fig. 4
Wt Weight, typical	4.3	g	
Die Size (Typical)	200 X 200	mils	
Case Style	T0-257AA		

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

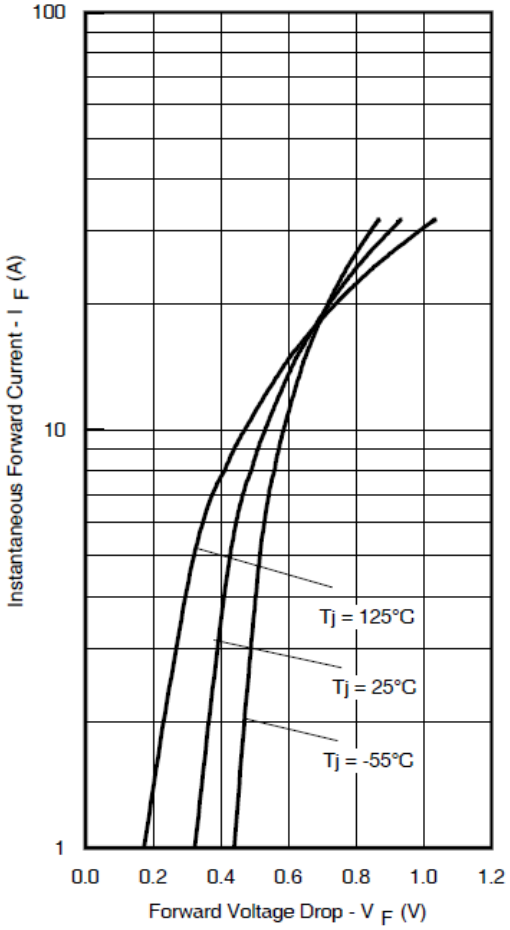


Fig 1. Max. Forward Voltage Drop Characteristics

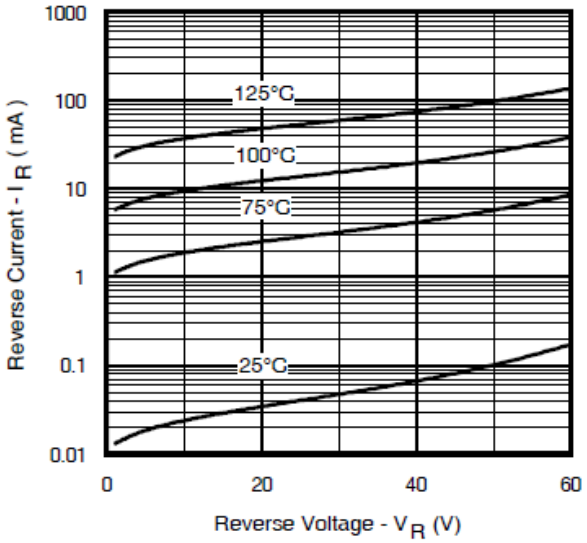


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage

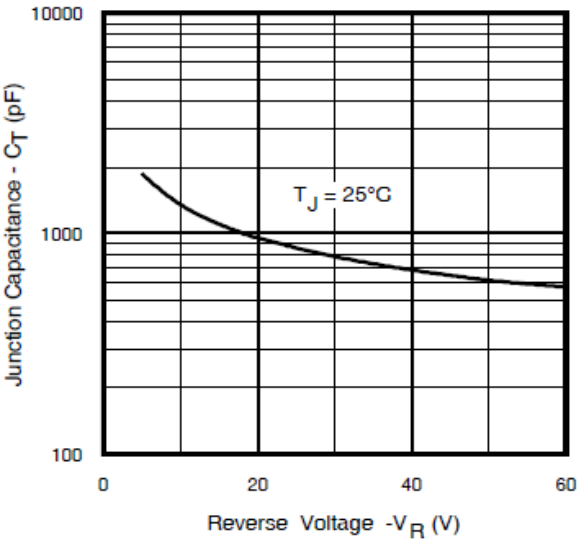


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage

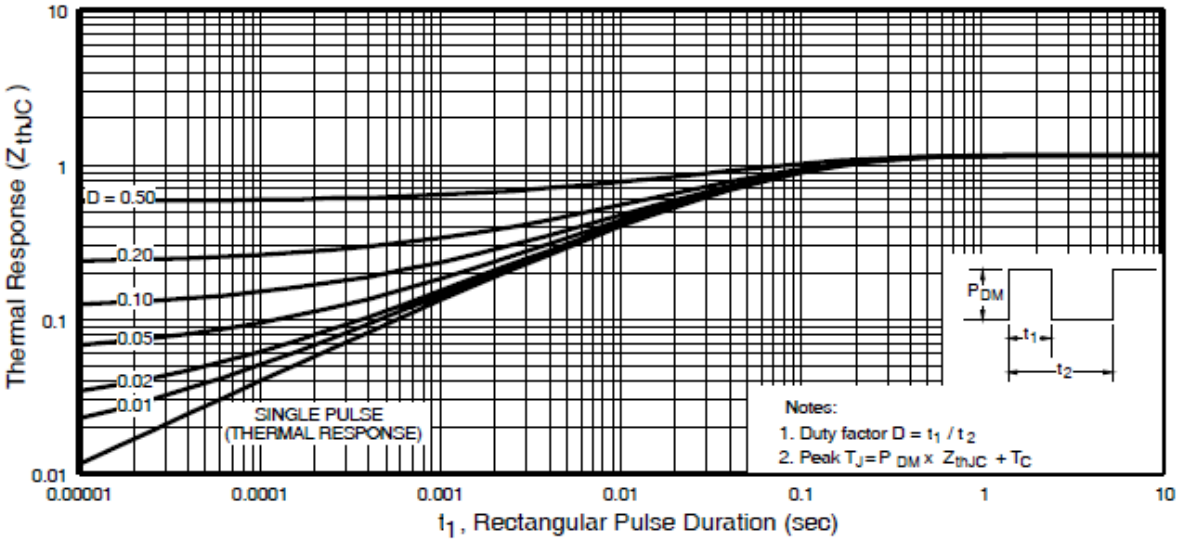


Fig 4. Max. Thermal Impedance Z_{thJC} Characteristics

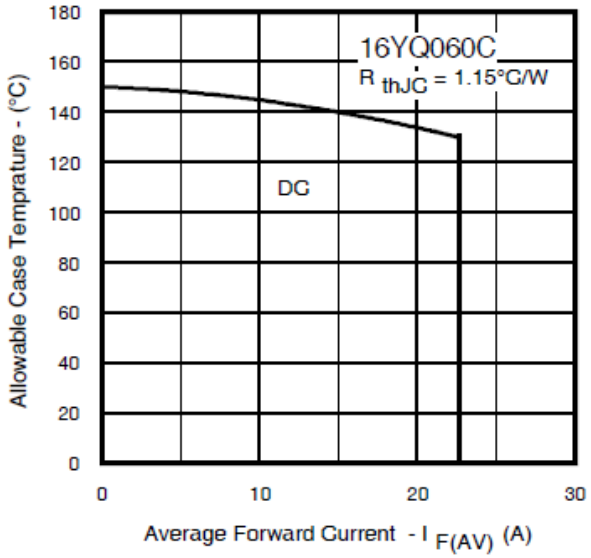


Fig 5. Max. Allowable Case Temperature
Vs. Average Forward Current

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