

International
IR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

PD - 94219A

16SYQ060C

16A, 60V

Major Ratings and Characteristics

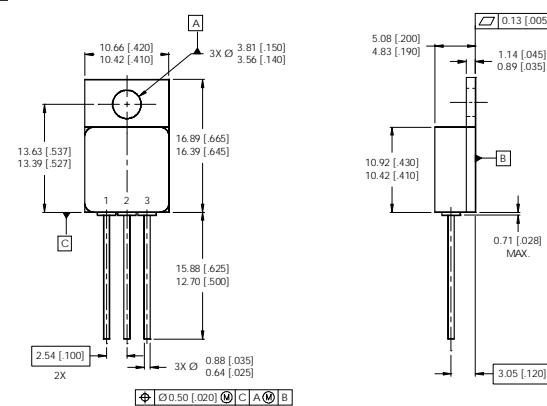
Characteristics	16SYQ060C	Units
I _{F(AV)}	16	A
V _{RRM}	60	V
I _{FSM} @ t _p = 8.3ms half-sine	250	A
V _F @ 16Apk, T _J = 125°C	0.63	V
T _J , T _{stg} Operating and storage	-55 to 150	°C

Description/Features

The 16SYQ060C Schottky rectifier has been expressly designed to meet the rigorous requirements of 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 resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S levels.

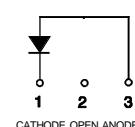
- Hermetically Sealed
- Ceramic Eyelets
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight

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 Max. DC Reverse Voltage (V)	60		
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 @ $T_C = 125^\circ\text{C}$, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	250	A	@ $t_p = 8.3 \text{ ms}$ half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions		
V_{FM} Max. Forward Voltage Drop See Fig. 1①	0.66	V	@ 16A	$T_J = -55^\circ\text{C}$	
	0.87	V	@ 32A		
	0.65	V	@ 16A		
	0.94	V	@ 32A	$T_J = 25^\circ\text{C}$	
	0.63	V	@ 16A		
	1.04	V	@ 32A		
I_{RM} Max. Reverse Leakage Current See Fig. 2①	0.5	mA	$T_J = 25^\circ\text{C}$	$V_R = \text{rated } V_R$	
	50	mA	$T_J = 100^\circ\text{C}$		
	190	mA	$T_J = 125^\circ\text{C}$		
C_T Max. Junction Capacitance	2100	pF	$V_R = 5\text{V}_{\text{DC}}$ (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	1.15	°C/W	DC operation	See Fig. 4
wt Weight (Typical)	4.3	g		
Die Size	200X200	mils		
Case Style	TO-257AA			

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

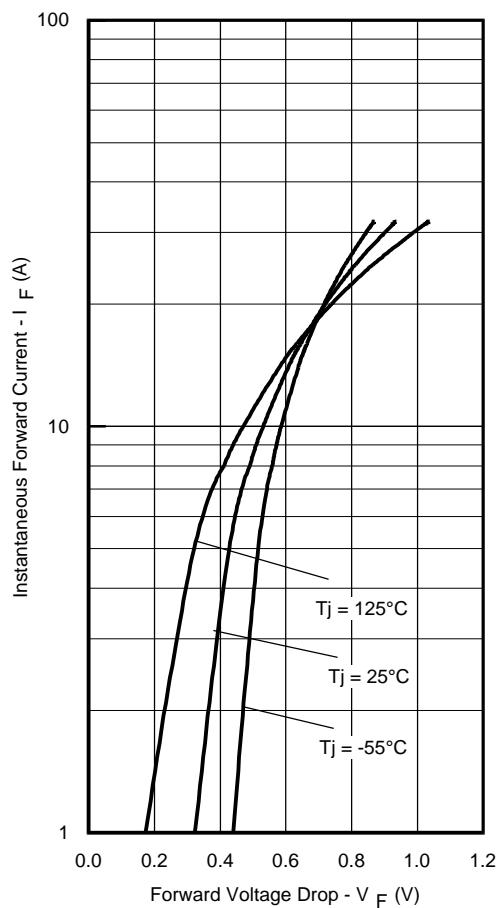


Fig. 1 - Max. Forward Voltage Drop Characteristics

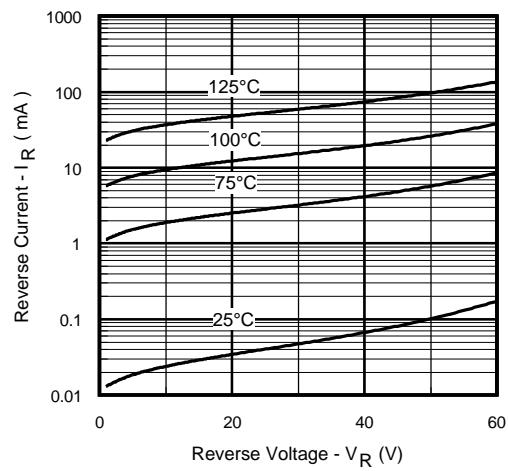


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

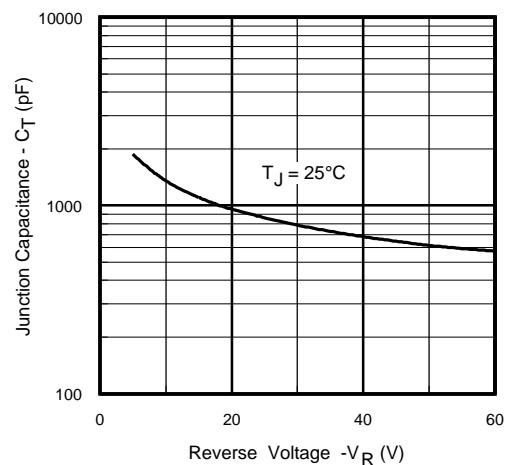


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

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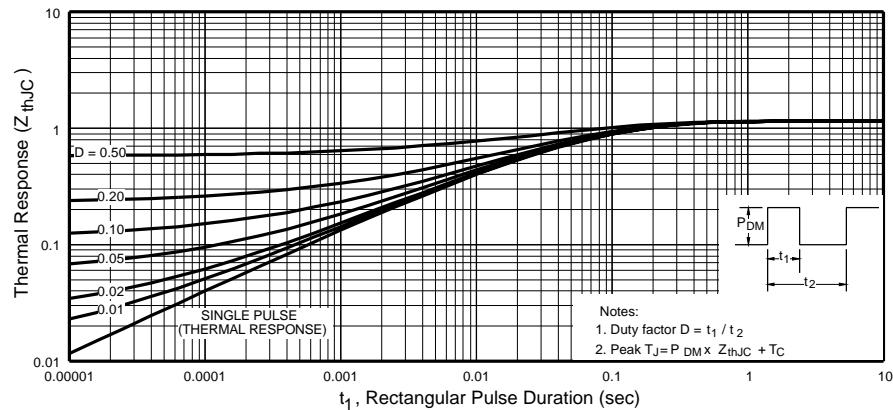


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

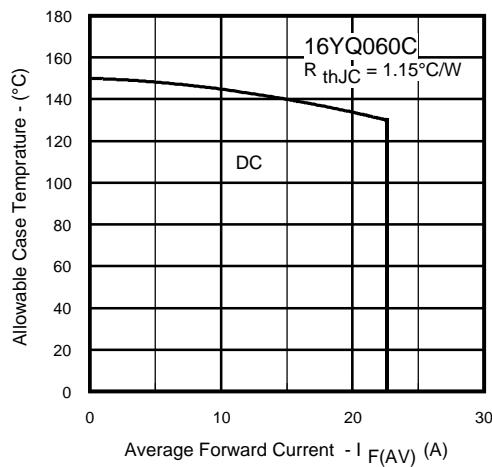


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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Data and specifications subject to change without notice. 03/02