PD-20353G

International
IOR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

22GQ100
30 Amp, 100V

Major Ratings and Characteristics

Characteristics	Limits	Units
$I_{F(AV)}$ Rectangular Waveform	30	A
V_{RRM}	100	V
I_{FSM} @ tp = 8.3ms half-sine	400	A
V_F @ 20Apk, T_J =125°C	0.73	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

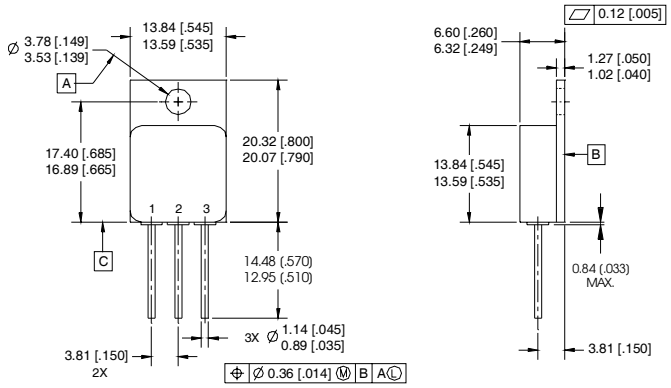
Description / Features

The 22GQ100 Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetic isolated TO-254AA 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 controlled drawings to TX, TXV and S levels.

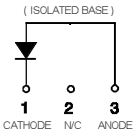
- Hermetically Sealed
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Electrically Isolated
- ESD Rating: Class 3A per MIL-STD-750, Method 1020

CASE STYLE





NOTES:
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994.
2. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
3. CONTROLLING DIMENSION: INCH.
4. CONFORMS TO JEDEC OUTLINE TO-254AA.



Case Outline and Dimensions - TO-254AA

02/07/2013

Voltage Ratings

Parameters		22GQ100
V_R	Max. DC Reverse Voltage (V)	100
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	30	A	50% duty cycle @ T_C = 113°C, rectangular waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current	400	A	@ t_p = 8.3 ms half-sine

Electrical Specifications

Parameters		Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop See Fig. 1①	0.86	V	@ 20A	T_J = -55°C
		0.99	V	@ 35A	
		0.84	V	@ 20A	T_J = 25°C
		0.98	V	@ 35A	
		0.73	V	@ 20A	T_J = 125°C
		0.84	V	@ 35A	
I_{RM}	Max. Reverse Leakage Current	0.8	mA	T_J = 25°C	V_R = rated V_R
	See Fig. 2 ①	45	mA	T_J = 125°C	
C_T	Max. Junction Capacitance	1400	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S	Typical Series Inductance	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	-55 to 150	°C	
T_{stg}	Max. Storage Temperature Range	-55 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case	1.0	°C/W	DC operation See Fig. 4
wt	Weight (Typical)	9.3	g	
	Die Size	200X200	mils	
	Case Style	TO-254AA		

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

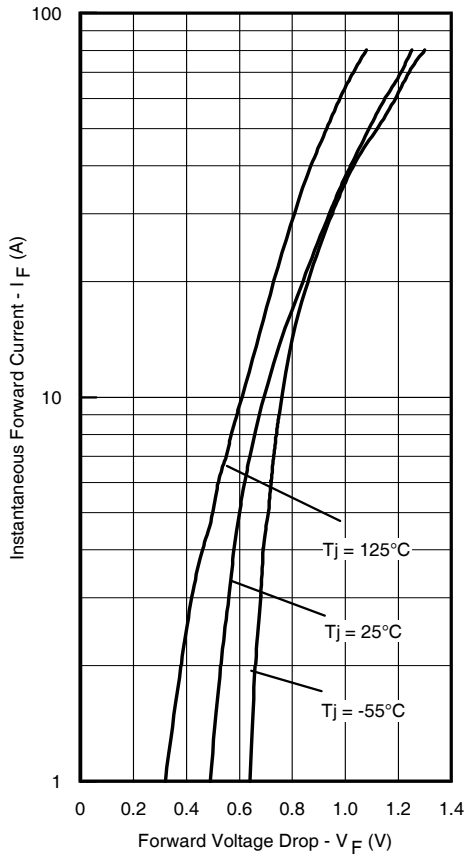


Fig. 1 - Maximum Forward Voltage Drop Characteristics

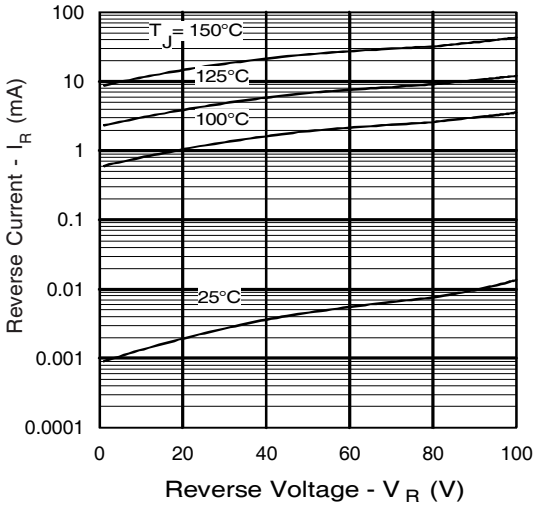


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

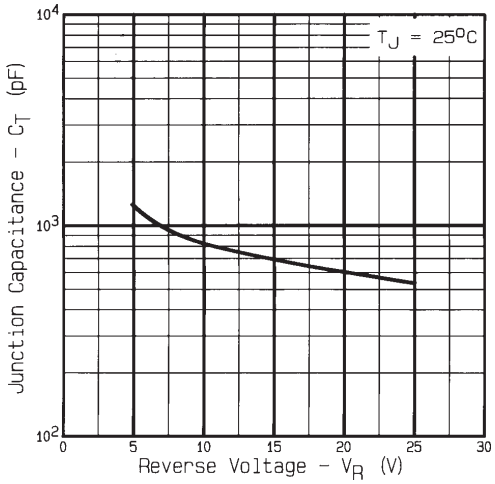


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

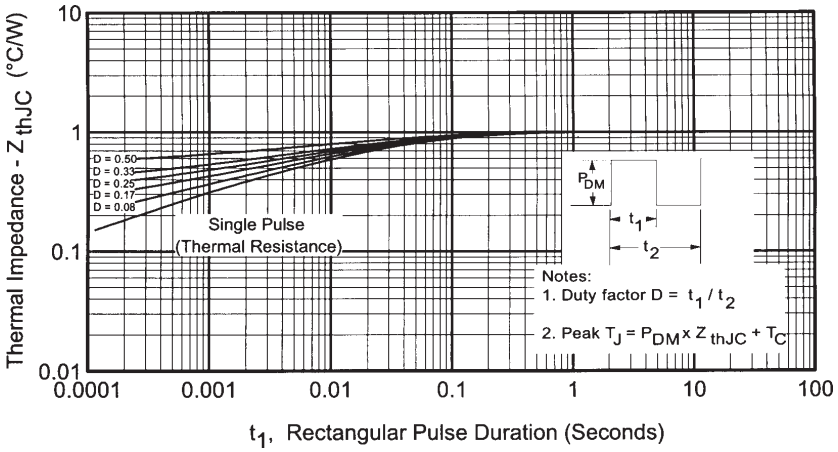


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

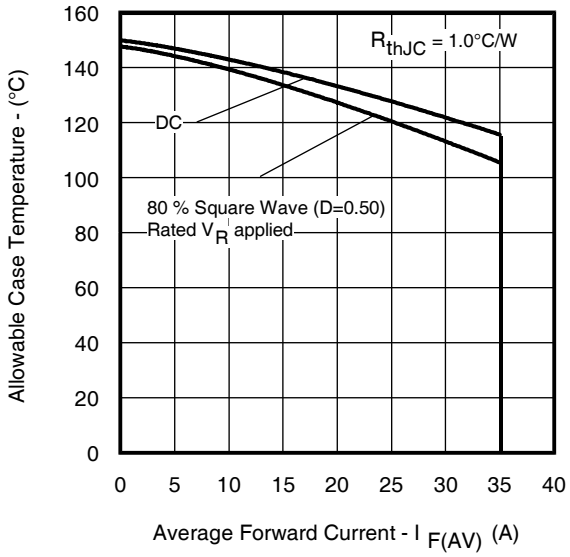


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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Data and specifications subject to change without notice. 02/2013