

International
IR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

PD-94016D

16CYQ100C
JANS1N7070CCT3
JANTX1N7070CCT3
JANTXV1N7070CCT3

16Amp, 100V
Ref: MIL-PRF-19500/763

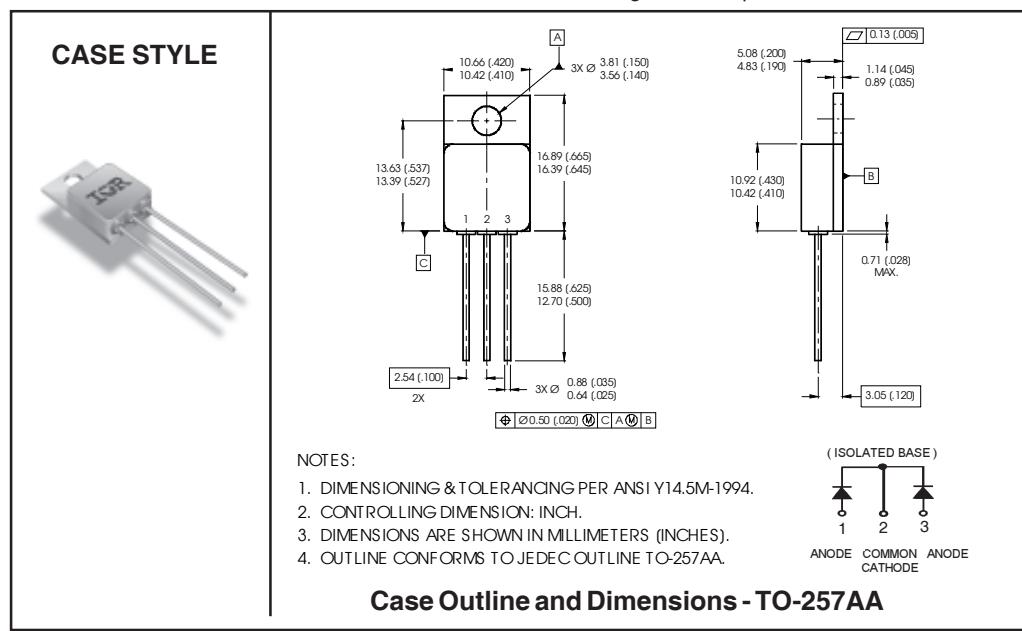
Major Ratings and Characteristics

Characteristics	1N7070CCT3	Units
I _{F(AV)}	16	A
V _{RRM} (Per Leg)	100	V
I _{FSM} @ t _p = 8.3ms half-sine (Per Leg)	250	A
V _F @ 16Apk, T _J = 125°C (Per Leg)	0.85	V
T _J , T _{stg} Operating and storage	-65 to 150	°C

Description/Features

The 1N7070CCT3 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliability environments. It is packaged in the hermetic isolated TO-257AA 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 quality levels.

- Hermetically Sealed
- Ceramic Eyelets
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020



Voltage Ratings

	Part number	1N7070CCT3		
V_R	Max. DC Reverse Voltage (V) (Per Leg)	100		
V_{RWM}	Max. Working Peak Reverse Voltage (V) (Per Leg)			

Absolute Maximum Ratings

	Parameters	Limits	Units	Conditions
$I_{F(AV)}$	Max. Average Forward Current See Fig. 5	16	A	50% duty cycle @ $T_C = 110^\circ\text{C}$, square waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	250	A	@ $t_p = 8.3 \text{ ms}$ half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions
V_{FM}	Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	0.77	V	@ 8.0A
		0.98	V	@ 16A
		0.75	V	@ 8.0A
		0.95	V	@ 16A
		0.66	V	@ 8.0A
		0.85	V	@ 16A
I_{RM}	Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.01	mA	$T_J = 25^\circ\text{C}$
		10	mA	$T_J = 125^\circ\text{C}$
C_T	Max. Junction Capacitance (Per Leg)	430	pF	$V_R = 5\text{V}_{\text{DC}}$ (1MHz, 25°C)
L_s	Typical Series Inductance (Per Leg)	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	-65 to 150	°C	
T_{stg}	Max. Storage Temperature Range	-65 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Leg)	2.0	°C/W	DC operation See Fig. 4
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Package)	1.0	°C/W	DC operation
w_t	Weight (Typical)	4.3	g	
	Die Size (Typical)	105 X125	mils	
	Case Style	T0-257AA		

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

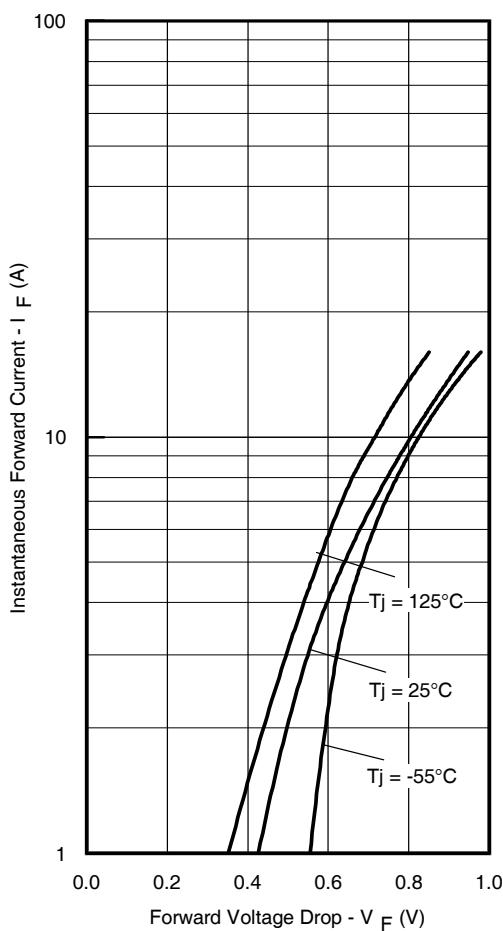


Fig. 1 - Max. Forward Voltage Drop Characteristics
 (Per Leg)

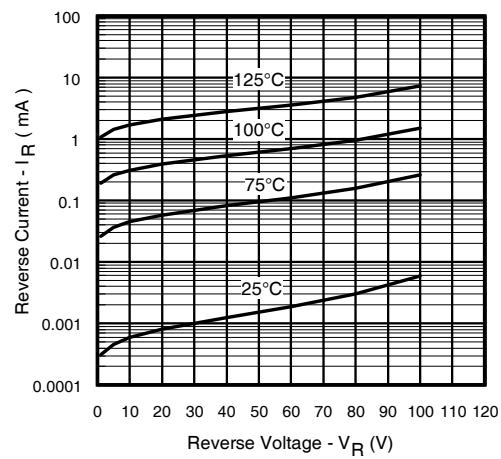


Fig. 2 - Typical Reverse Current Vs.
 Reverse Voltage (Per Leg)

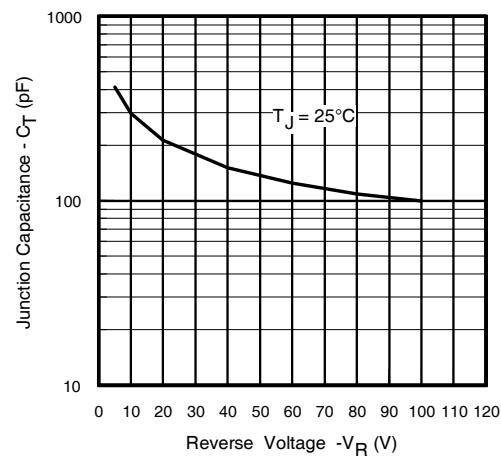


Fig. 3 - Typical Junction Capacitance Vs.
 Reverse Voltage (Per Leg)

16CYQ100C, 1N7070CCT3

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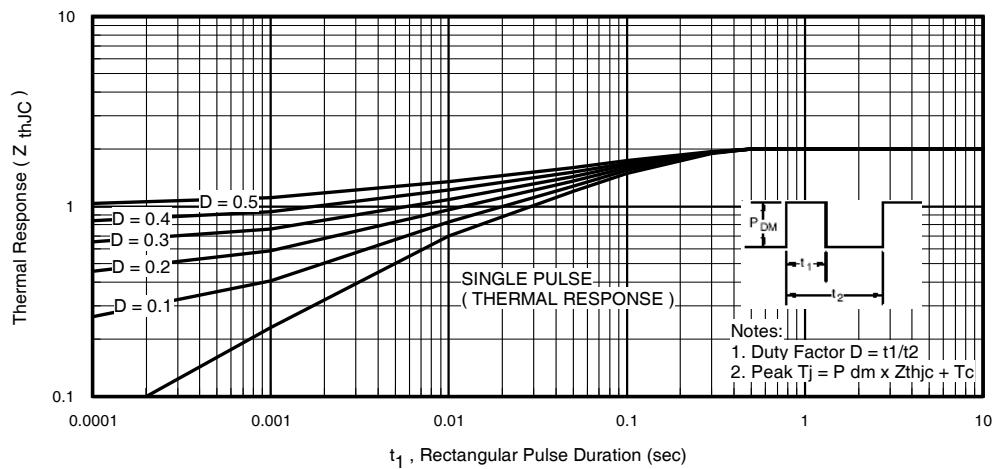


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

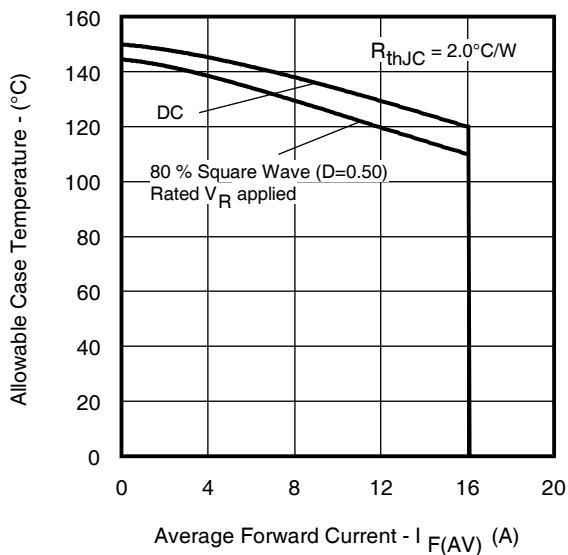


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current (Per Leg)

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Data and specifications subject to change without notice. 11/2012