

35CGQ100 (JANS1N7062CCT1)

PD-94015D

Schottky Rectifier High Efficiency Series Thru-Hole (TO-254AA) 100V, 35A

Features

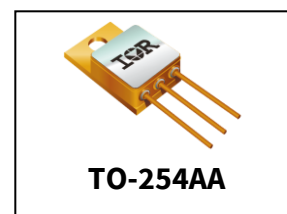
- Hermetically sealed
- Center Tap
- Low forward voltage drops
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Light weight
- ESD rating: Class NS per MIL-STD-750, Method 1020

Potential Applications

- DC-DC converter
- Protection circuits
- Motor drives

Product Summary

- **V_{RRM}**: 100V
- **I_{F(AV)}**: 35A
- **V_F @ 35Apk, T_J = 125°C**: 0.99V
- **I_{FSM} @ t_p = 8.3ms half-sine**: 150A
- **REF**: MIL-PRF-19500/762



Product Validation

Fully qualified according to MIL-PRF-19500 for space applications

Description

The 35CGQ100 (1N7062CCT1) center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of IR 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 resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

Ordering Information

Table 1 **Ordering options**

Part number	Package	Screening Level
35CGQ100	TO-254AA	COTS
35CGQ100SCS	TO-254AA	JANS
35CGQ100SCX	TO-254AA	JANTX
35CGQ100SCV	TO-254AA	JANTXV
JANS1N7062CCT1	TO-254AA	JANS
JANTX1N7062CCT1	TO-254AA	JANTX
JANTXV1N7062CCT1	TO-254AA	JANTXV

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Absolute Maximum Ratings**1 Absolute Maximum Ratings****Table 2 Absolute Maximum Ratings**

Symbol	Parameter	Value	Unit
V_R	DC reverse voltage (Per Leg)	100	V
V_{RWM}	Working peak reverse voltage (Per Leg)	100	V
$I_{F(AV)}$	Max. average forward current - Refer to Fig. 5 ¹	35	A
I_{FSM}	Max. peak one cycle non-repetitive surge current (Per Leg) ²	150	A
T_J T_{STG}	Operating Junction and Storage Temperature Range	-65 to 150	°C
	Weight	9.3 (Typical)	g

¹ 50% duty cycle @ TC = 112.5°C, square waveform² t_p = 8.3 ms half-sine

Device Characteristics

2 Device Characteristics

2.1 Electrical Characteristics

Table 3 Electrical Characteristics

Symbol	Parameter	Max.	Unit	Test Conditions	
V _F	Forward Voltage Drop (Per Leg) See Fig. 1 ¹	0.90	V	@ 15A	T _J = -55°C
		1.05	V	@ 30A	
		1.08	V	@ 35A	
		0.82	V	@ 15A	T _J = 25°C
		1.01	V	@ 30A	
		1.11	V	@ 35A	
		0.71	V	@ 15A	T _J = 125°C
		0.92	V	@ 30A	
		0.99	V	@ 35A	
I _R	Reverse Leakage Current (Per Leg) See Fig. 2 ¹	0.07	mA	T _J = 25°C	V _R = rated V _R
		40	mA	T _J = 125°C	
C _J	Junction Capacitance (Per Leg)	1000	pF	V _R = 5V _{DC} (1MHz, 25°C)	
L _S	Series Inductance (Per Leg)	7.8 (Typical)	nH	Measured from anode lead to cathode lead 6mm (0.25 in) from package	

2.2 Thermal-Mechanical Specifications

Table 4 Thermal-Mechanical Specifications

Symbol	Parameter	Max.	Unit	Test Conditions
$R_{\theta JC}$	Thermal Resistance, Junction to Case (Per Leg)	1.25	$^\circ\text{C}/\text{W}$	DC operation See Fig. 4
$R_{\theta JC}$	Thermal Resistance, Junction to Case (Per Package)	0.63	$^\circ\text{C}/\text{W}$	DC operation
	Die Size (Typical)	158 x 158	mils	

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

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Electrical Characteristics Curves

3 Electrical Characteristics Curves

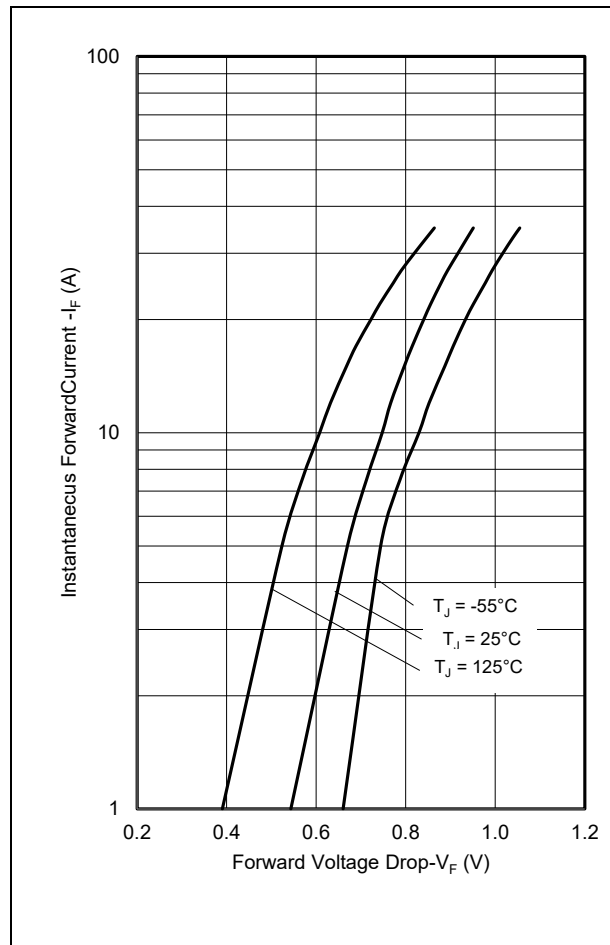


Figure 1 Maximum Forward Voltage Drop Characteristics (Per Leg)

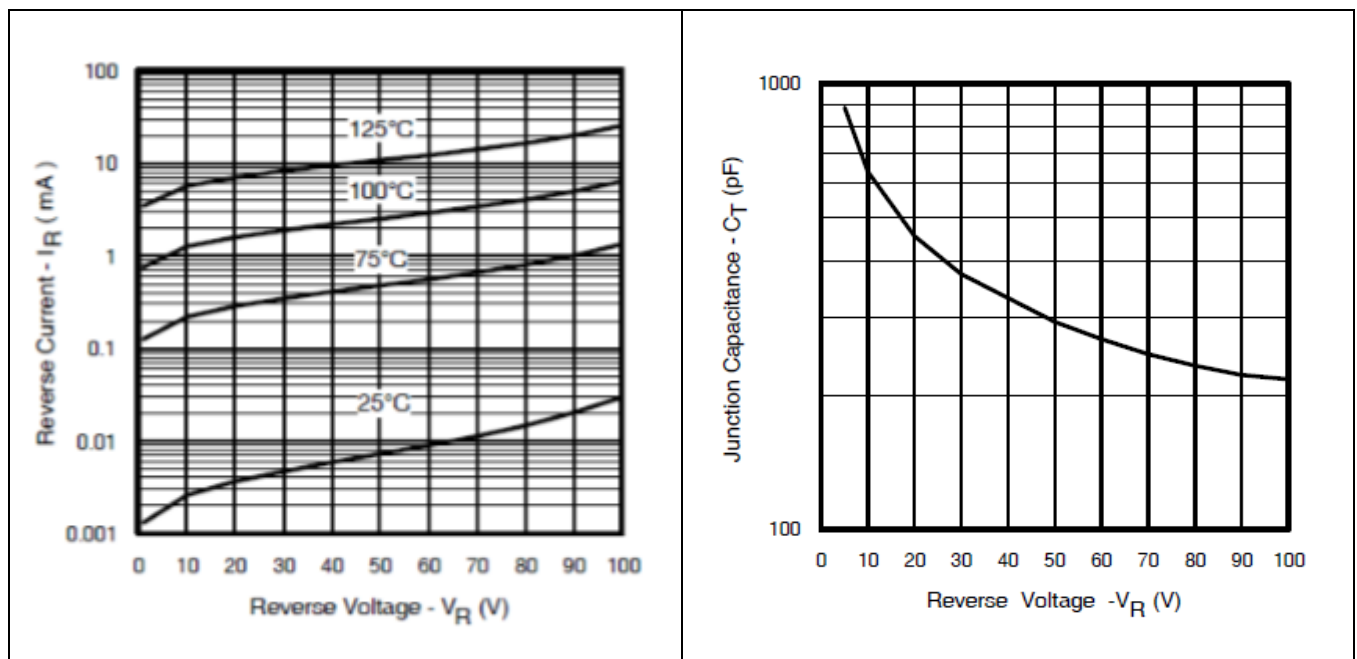


Figure 2 Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

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

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Electrical Characteristics Curves

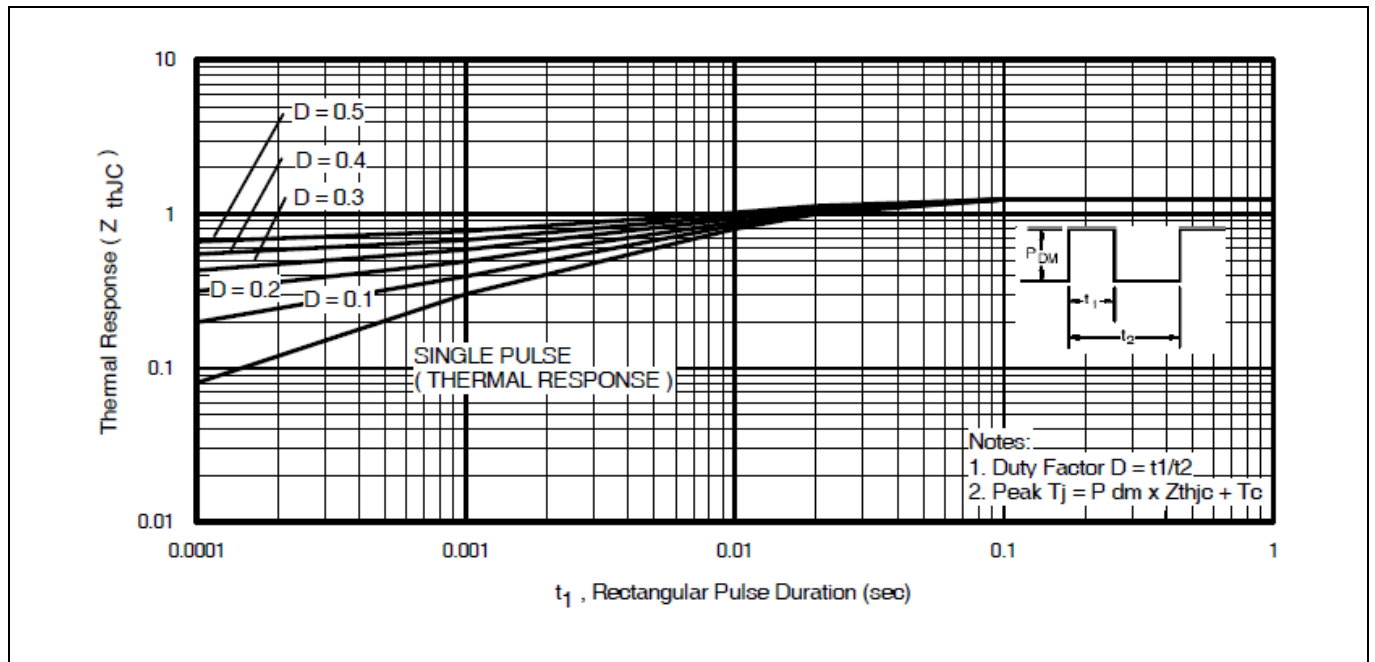


Figure 4 Maximum Thermal Impedance Z_{thJC} Characteristics (Per Leg)

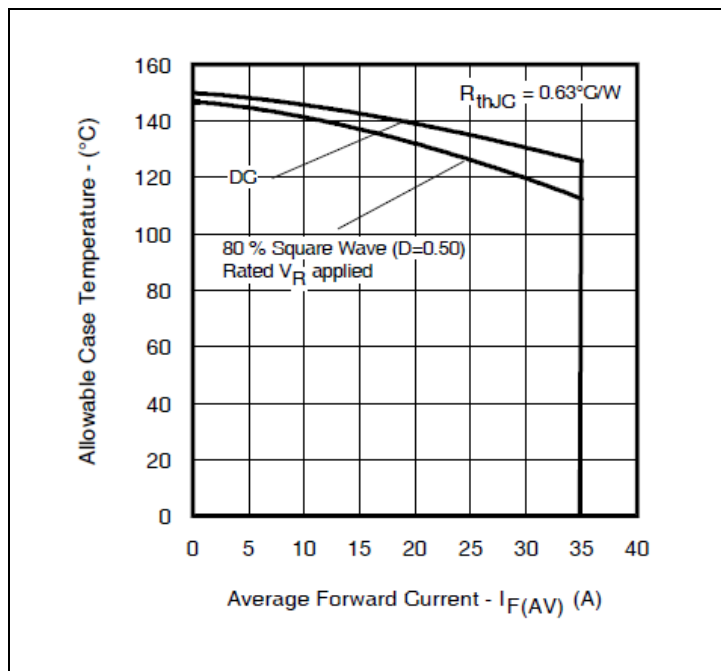


Figure 5 Maximum Allowable Case Temperature Vs. Average Forward Current (Per Leg)

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Revision history

Revision history

Document version	Date of release	Description of changes
	11/15/2000	Final datasheet (PD-94015)
Rev A	10/29/2010	Updated per ECN-17830
Rev B	10/26/2012	Added ESD rating
Rev C	11/01/2019	Updated per ECN-1120-07448
Rev D	10/12/2023	Updated per ECN-1120-09715

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