35CGQ100 (JANS1N7062CCT1)

PD-94015D

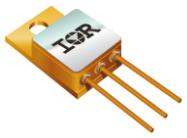
Schottky Rectifier High Efficiency Series
Thru-Hole (TO-254AA)
100V, 35A

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

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



TO-254AA

Potential Applications

- DC-DC converter
- Protection circuits
- Motor drives

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
35SGQ100	TO-254AA	COTS
35SGQ100SCS	TO-254AA	JANS
35SGQ100SCX	TO-254AA	JANTX
35SCGQ100SCV	TO-254AA	JANTXV
JANS1N7062CCT1	TO-254AA	JANS
JANTX1N7062CCT1	TO-254AA	JANTX
JANTXV1N7062CCT1	TO-254AA	JANTXV

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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 waveform

[2] t_p = 8.3 ms half-sine

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 Error! Bookmark not defined.
		1.05	V	@ 30A	
		1.08	V	@ 35A	
		0.82	V	@ 15A	T_J = 25°C Error! Bookmark not defined.
		1.01	V	@ 30A	
		1.11	V	@ 35A	
		0.71	V	@ 15A	T_J = 125°C Error! Bookmark not defined.
		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 Error! Bookmark not defined.
		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	°C/W	DC operation See Fig. 4
$R_{\theta JC}$	Thermal Resistance, Junction to Case (Per Package)	0.63	°C/W	DC operation
	Die Size (Typical)	158 x 158	mils	

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

3 Electrical Characteristics Curves

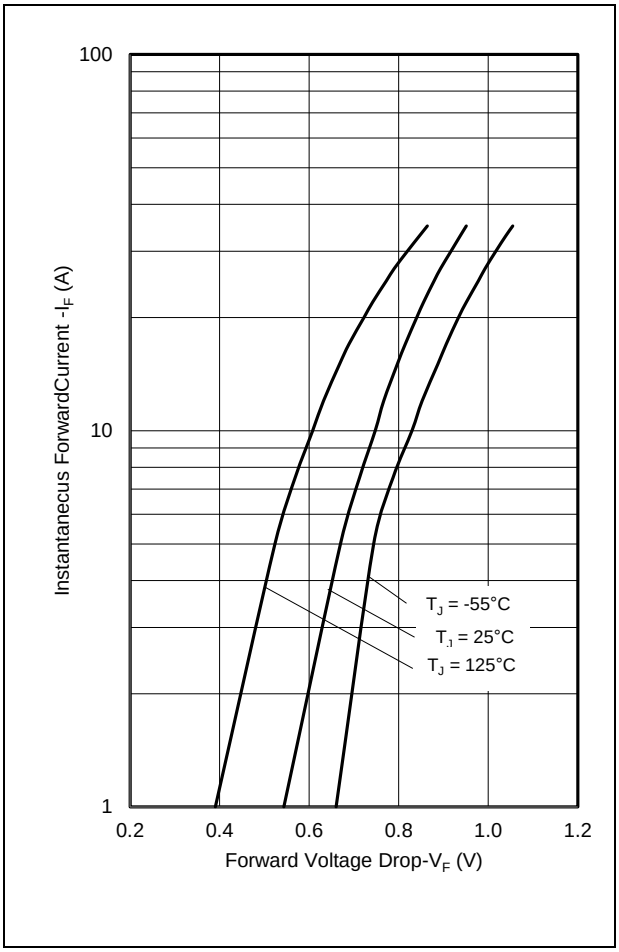


Figure 1 Maximum Forward Voltage Drop Characteristics (Per Leg)

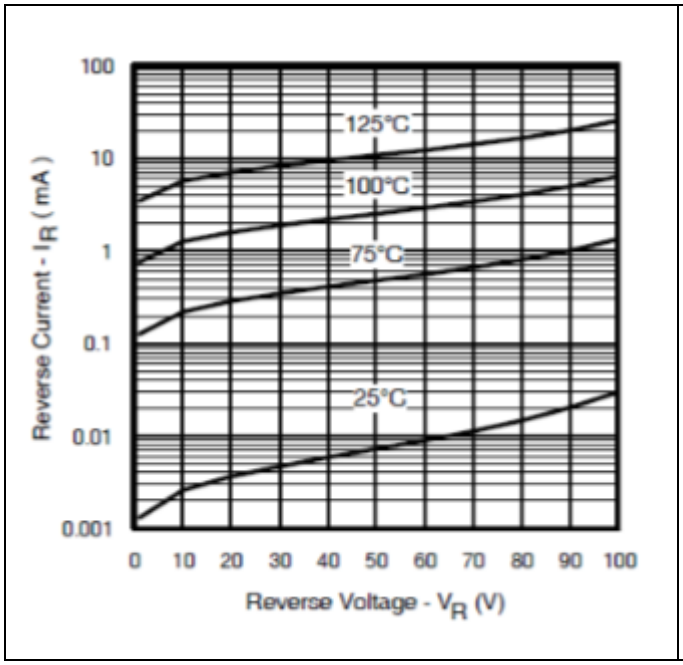


Figure 2 Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

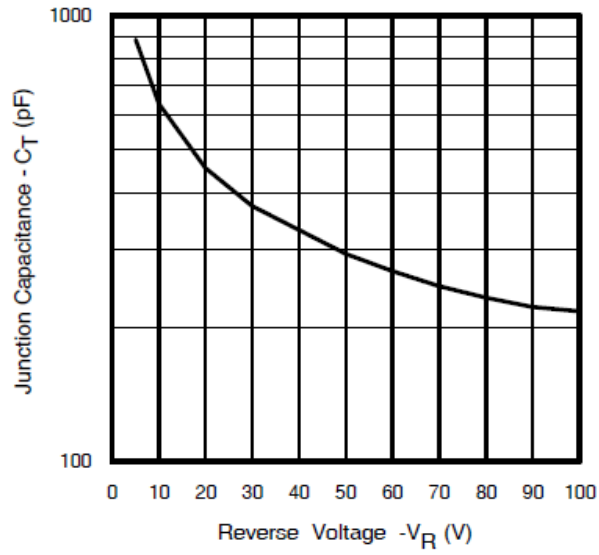


Figure 3 Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

Electrical Characteristics Curves

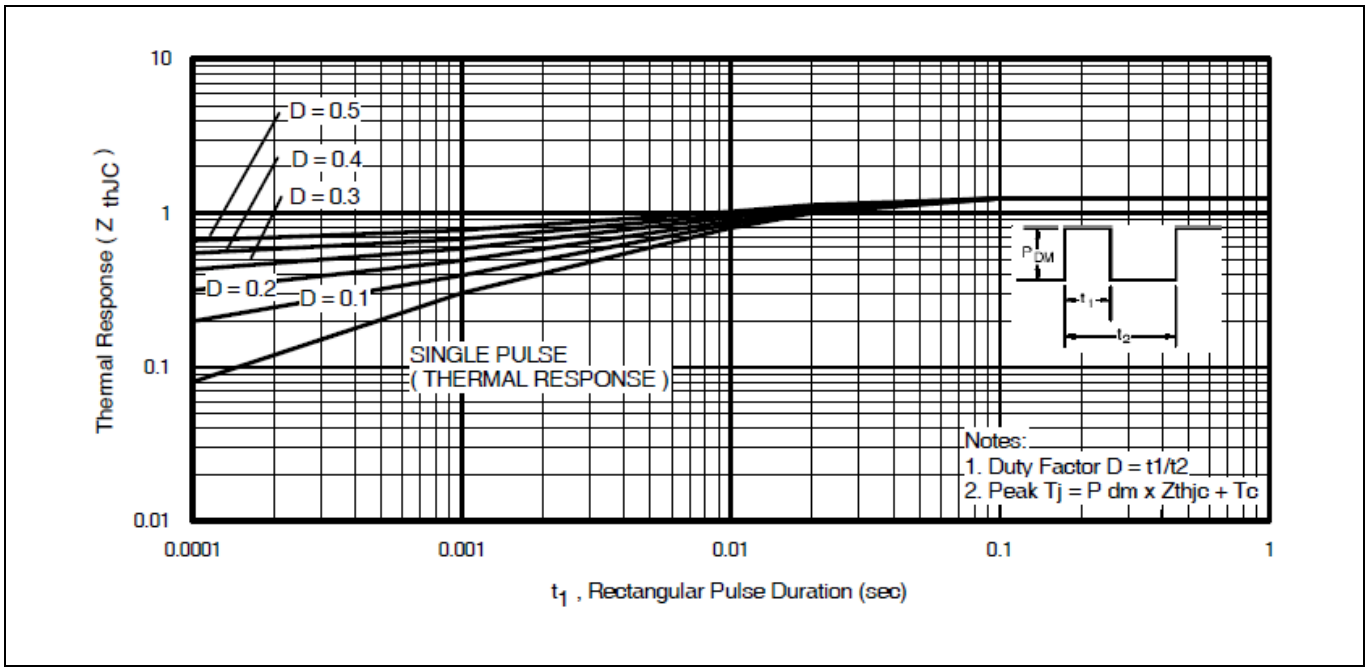


Figure 4 Maximum Thermal Impedance Z_{thJC} Characteristics (Per Leg)

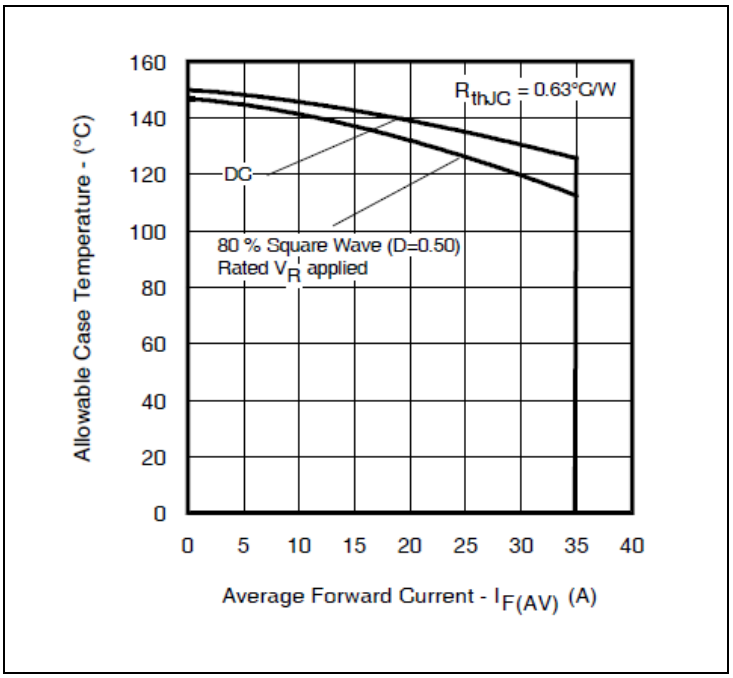
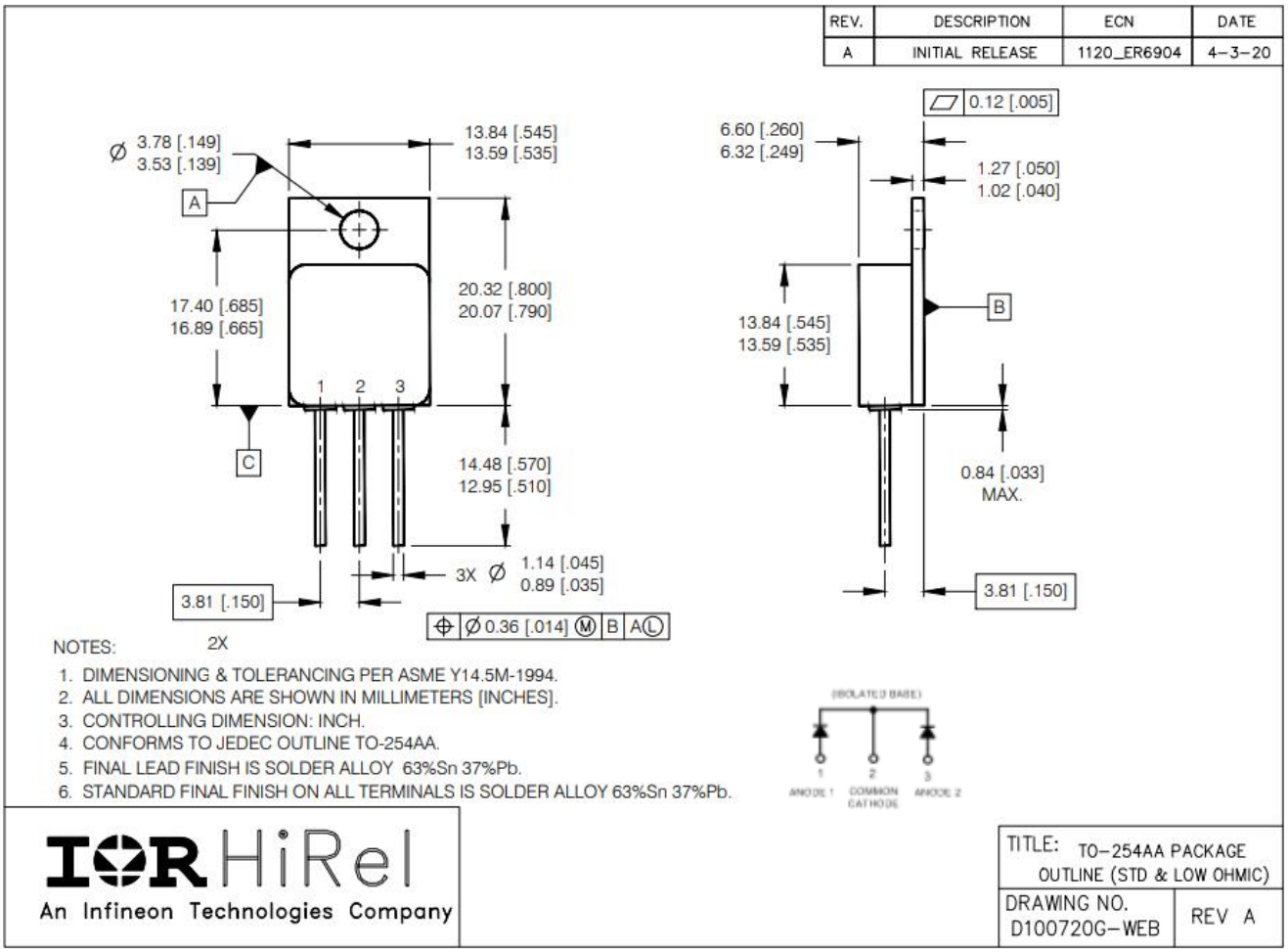


Figure 5 Maximum Allowable Case Temperature Vs. Average Forward Current (Per Leg)

4 Package Outline

Note: For the most updated package outline, please see the website: TO-254AA



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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