

30LJQ100

PD-93970A

Schottky Rectifier High Efficiency Series Surface Mount (SMD-0.5) 100V, 30A

Features

- Hermetically sealed
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Surface mount
- Light weight
- ESD rating: Class 3B per MIL-STD-750, Method 1020

Potential Applications

- DC-DC converter
- Protection circuits

Product Validation

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

Description

The 30LJQ100 Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliability environments. It is packaged in the hermetic surface mount SMD-0.5 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 TXV and S quality levels.

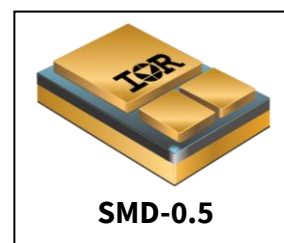
Ordering Information

Table 1 **Ordering options**

Part number	Package	Screening Level
30LJQ100	SMD-0.5	COTS
30LJQ100SCS	SMD-0.5	S-Level
30LJQ100SCV	SMD-0.5	TXV-Level

Product Summary

- V_{RRM} : 100V
- $I_{F(AV)}$: 30A
- V_F @ 20Apk, $T_J = 125^\circ\text{C}$: 0.73V
- I_{FSM} @ $t_p = 8.3\text{ms half-sine}$: 250A



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Absolute Maximum Ratings

1 Absolute Maximum Ratings

Table 2 Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_R	Max. DC reverse voltage	100	V
V_{RWM}	Max. Working peak reverse voltage)	100	V
$I_{F(AV)}$	Max. average forward current - Refer to Fig. 5 ¹	30	A
I_{FSM}	Max. peak one cycle non-repetitive surge current ²	250	A
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C
	Weight	1.0 (Typical)	g

¹ 50% duty cycle @ $T_c = 88^\circ\text{C}$, square waveform² @ $t_p = 8.3\text{ms}$ half-sine

Device Characteristics

2 Device Characteristics

2.1 Electrical Characteristics

Table 3 Electrical Characteristics

Symbol	Parameter	Max.	Unit	Test Conditions	
V _F	Max. Forward Voltage Drop See Fig. 1 ¹	0.98	V	@ 20A	T _J = -55°C
		1.11	V	@ 30A	
		1.43	V	@ 60A	
		0.90	V	@ 20A	T _J = 25°C
		1.04	V	@ 30A	
		1.35	V	@ 60A	
		0.73	V	@ 20A	T _J = 125°C
		0.81	V	@ 30A	
		1.03	V	@ 60A	
I _R	Max. Reverse Leakage Current See Fig. 2 ¹	0.04	mA	T _J = 25°C	V _R = rated V _R
		1.8	mA	T _J = 100°C	
		7.0	mA	T _J = 125°C	
C _J	Max. Junction Capacitance	450	pF	V _R = 5V _{DC} (1MHz, 25°C)	
L _S	Series Inductance	4.8(Typical)	nH	Measured from center of cathode pad to center of anode pad	

2.2 Thermal-Mechanical Specifications

Table 4 Thermal-Mechanical Specifications

Symbol	Parameter	Max.	Unit	Test Conditions
$R_{\theta JC}$	Max. Thermal Resistance, Junction to Case	2.0	$^\circ\text{C}/\text{W}$	DC operation See Fig. 4
	Die Size (Typical)	112 X 112	mils	

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

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Electrical Characteristics Curves

3 Electrical Characteristics Curves

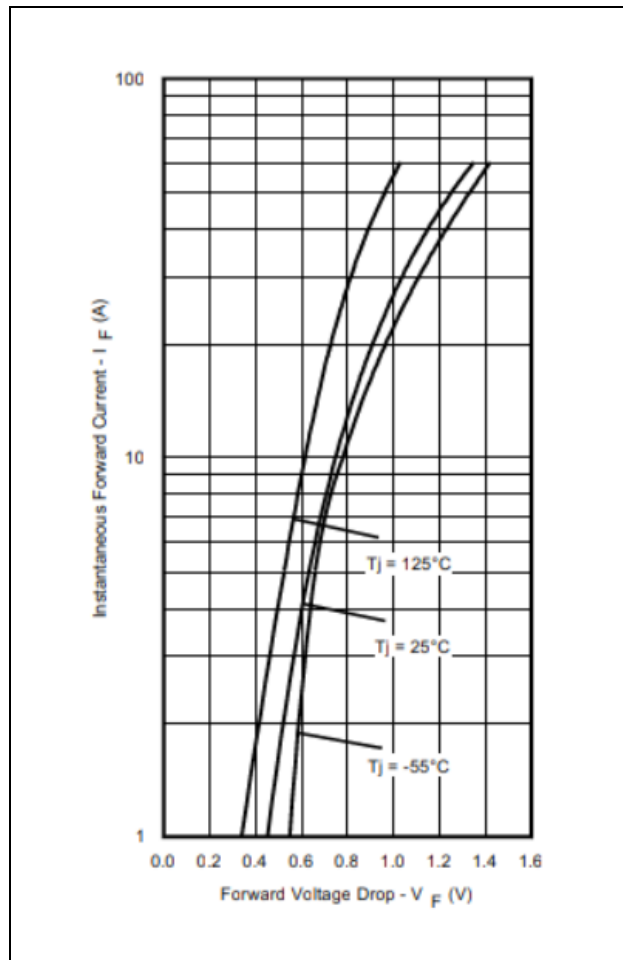


Figure 1 Maximum Forward Voltage Drop Characteristics

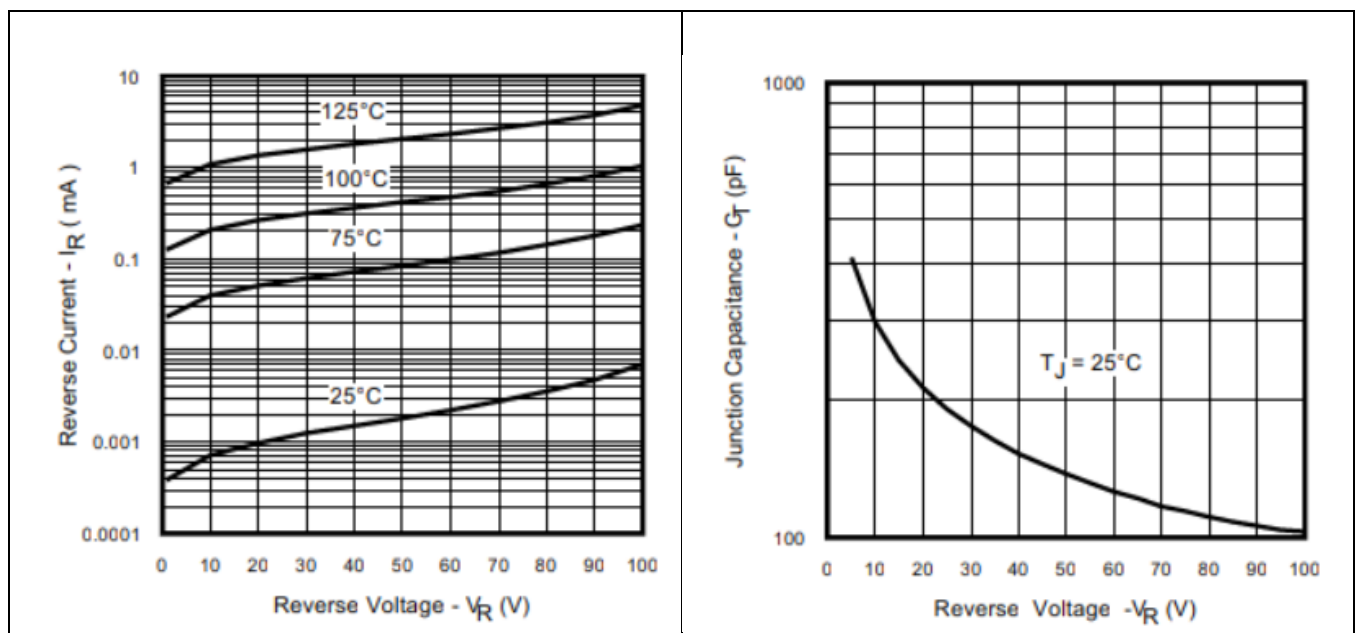


Figure 2 Typical Values of Reverse Current Vs. Reverse Voltage

Figure 3 Typical Junction Capacitance Vs. Reverse Voltage

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Electrical Characteristics Curves

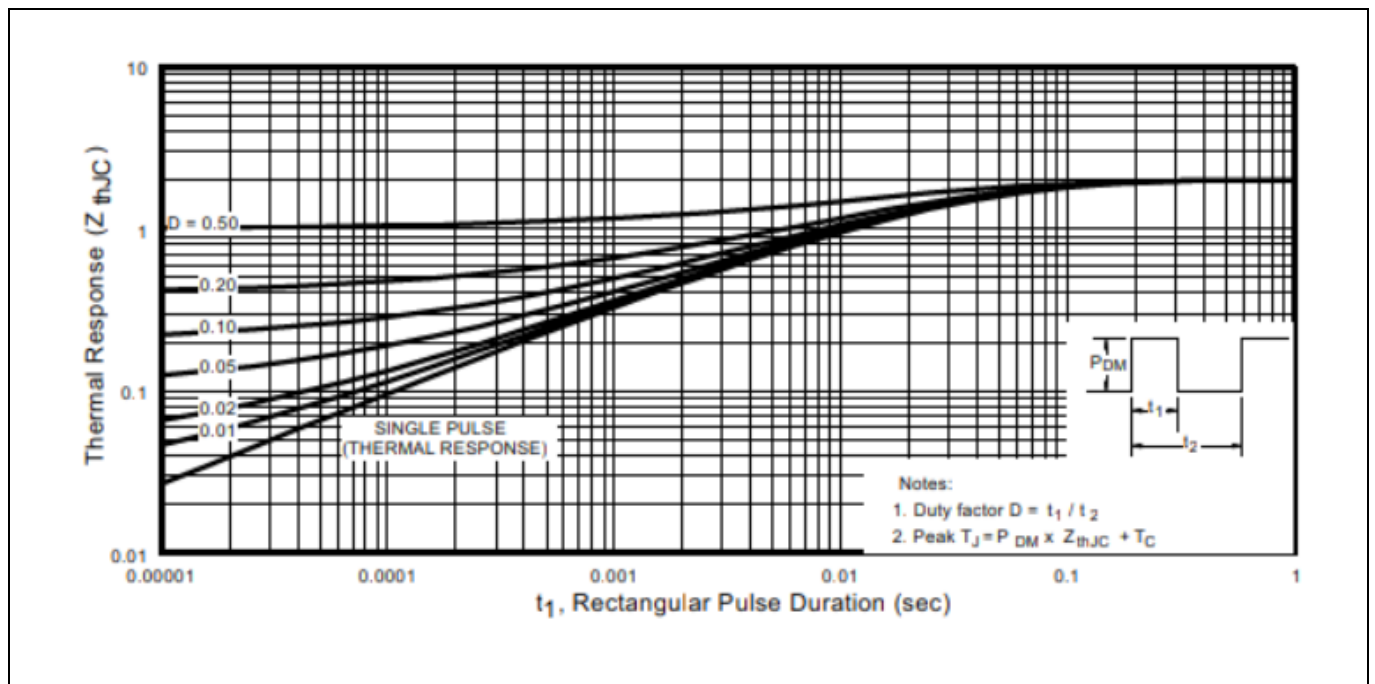


Figure 4 Maximum Thermal Impedance Z_{thJC} Characteristics

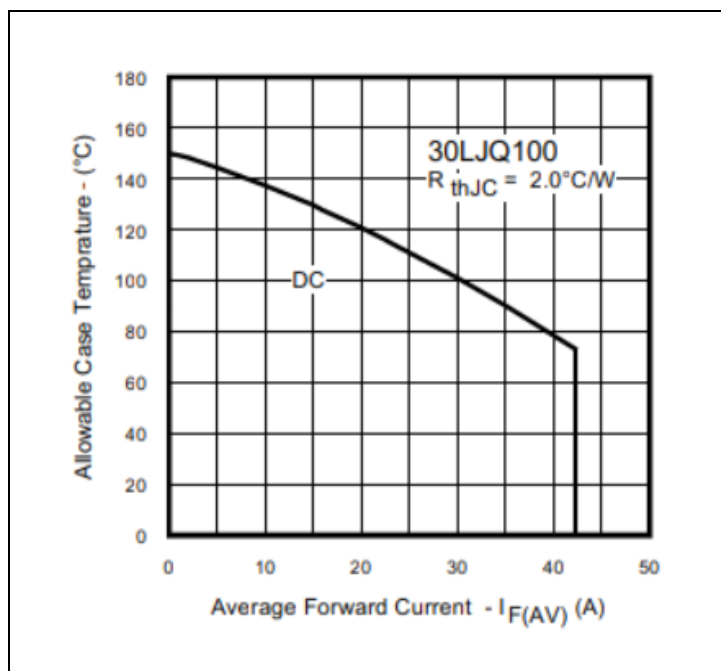


Figure 5 Maximum Allowable Case Temperature Vs. Average Forward Current

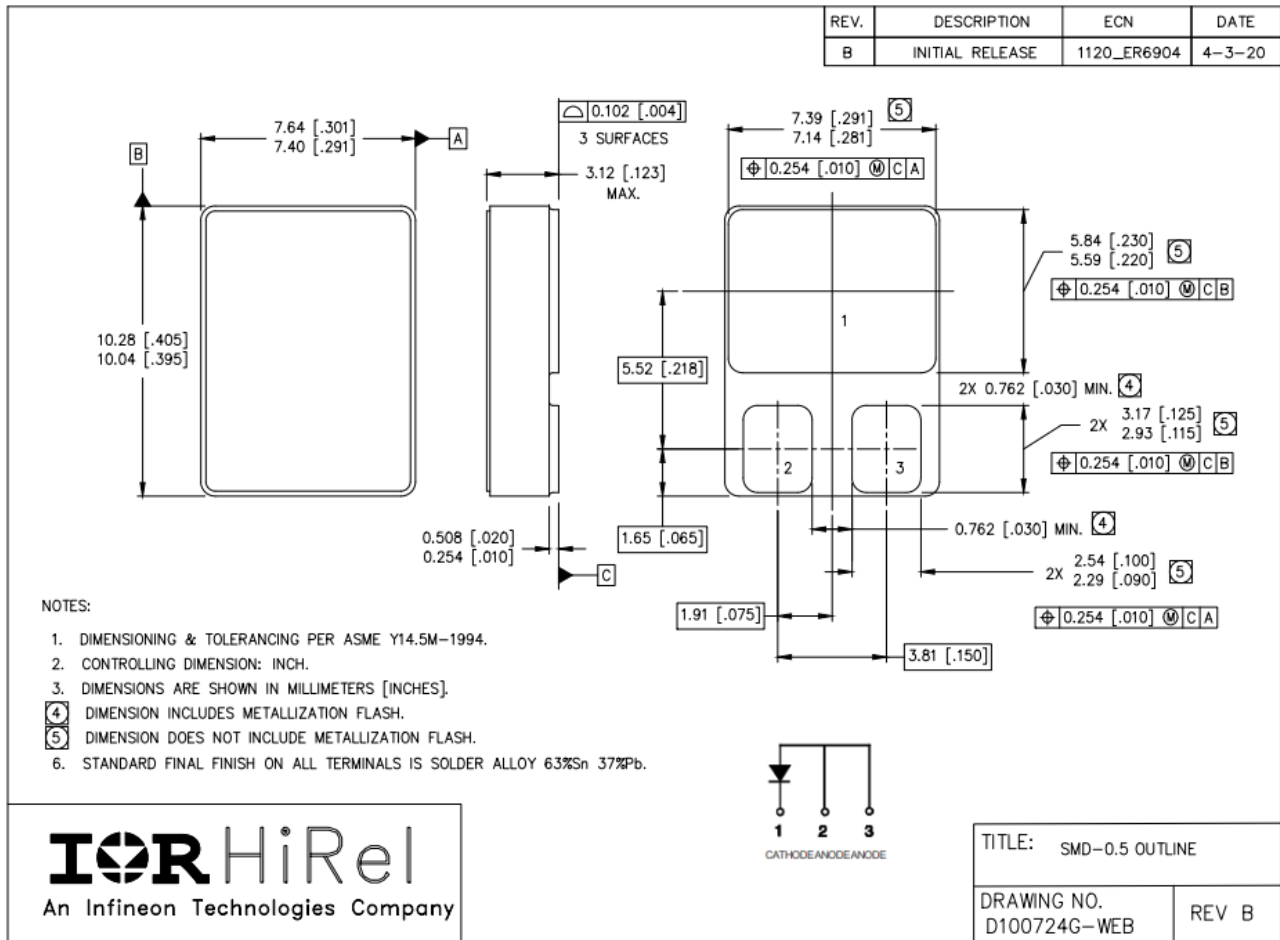
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Package Outline

4 Package Outline

Note: For the most updated package outline, please see the website: [SMD-0.5](#)



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Schottky Rectifier High Efficiency Series Surface Mount (SMD-0.5)

Revision history

Revision history

Document version	Date of release	Description of changes
	10/04/2000	Final datasheet (PD-93970)
Rev A	07/09/2026	Updated per ECN- Z8F80933357

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Email: erratum@infineon.com

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