SEMICONDUCTOR

SR10300G

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage -300 Volts
Forward Current - 10.0Amperes

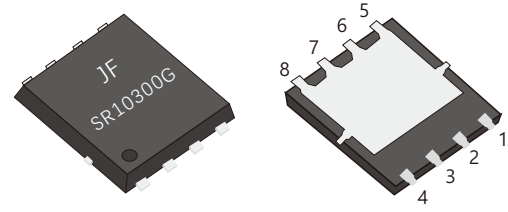
DFN5×6

SR10300G

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU

Pb RoHS COMPLIANT





MECHANICAL DATA

- Case: DFN5×6 Package
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Mounting Position: Any

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	10A
V_{RRM}	300V
I_{FSM}	200A
V_F at I_F=10A(125℃)	0.72V
I_R	0.3μA
T_J(MAX)	150℃

TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	300	V
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	$I_{F(AV)}$	10.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	200	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

ELECTRICAL CHARACTERISTCS (Pin1 & Pin2 is shorted,TA=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	I_F=10A	T_J=25℃	V_F 1)	0.84	0.90	V
		T_J=125℃		0.73	0.80	
	I_F=6A	T_J=25℃		0.81	-	
		T_J=125℃		0.68	-	
Reverse current	V_R=300V	T_J=25℃	I_R 2)	-	5.0	μA
		T_J=125℃		-	1.5	mA
Typical junction capacitance	4V,1MHz		C_J	116		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	SR10300G	Unit
Typical thermal resistance	$R_{\theta JA}$ 3)	55	℃/W
	$R_{\theta JC}$ 4)	3.5	

3.Thermal resistance between junction and ambient mounted on P.C.B with 25.4mm*25.4mm copper pad areas

4.Thermal resistance between junction and case(bottom)

AVAILABALEPACK INFORMATION

Part No.	Package Type	Package	Quality(box)
SR10300G	DFN5×6	Tape & Reel	5000

FIG.1-FORWARD CURRENT DERATING CURVE

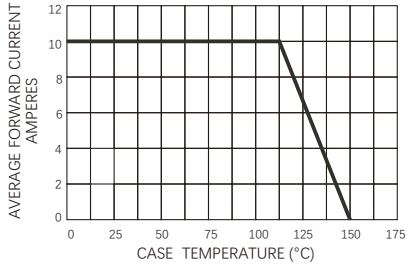


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

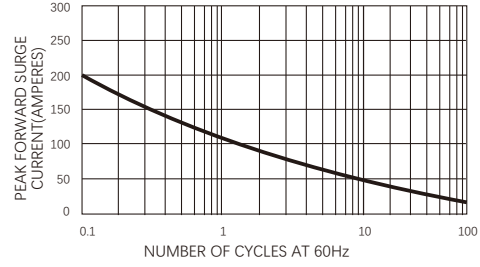


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

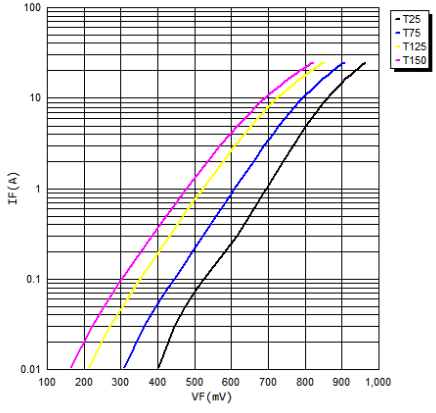


FIG.4-TYPICAL REVERSE CHARACTERISTICS

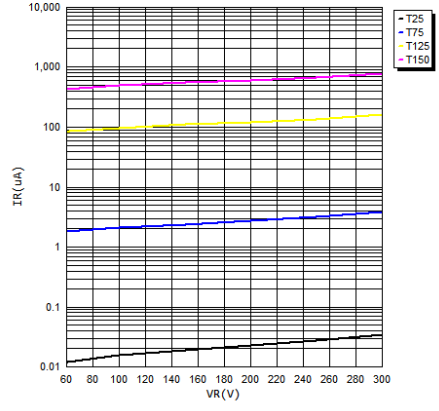
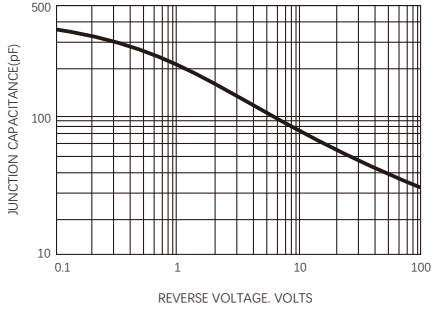
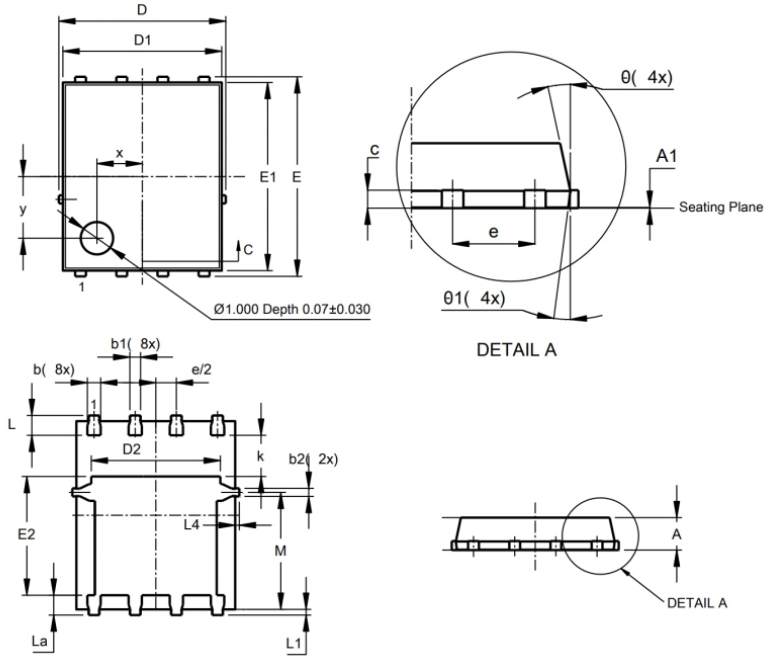


FIG.5-TYPICAL JUNCTION CAPACITANCE

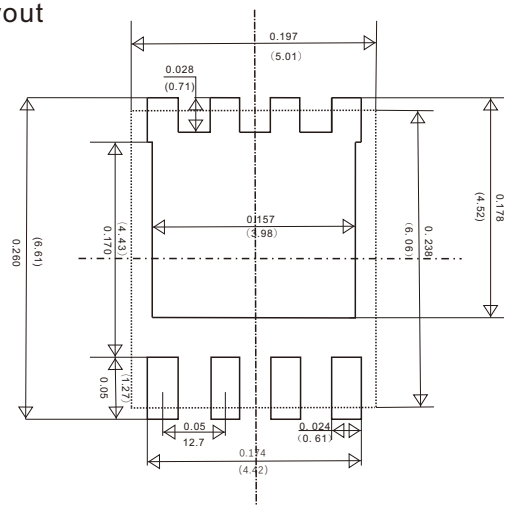


DFN5×6 PACKAGE OUTLINE DIMENSIONS



Dim	Min	Max	Type
A	0.90	1.10	1.00
b	0.23	0.41	0.32
b1	0.24	0.30	0.27
b2	0.16	0.32	0.23
c	0.17	0.27	0.22
D	-	-	5.01
D1	4.80	4.95	4.88
D2	-	-	3.98
E	-	-	6.06
E1	5.72	5.82	5.77
E2	3.42	3.52	3.47
k	-	-	1.33
L	0.56	0.66	0.61
La	0.57	0.67	0.63
L1	0.06	0.15	0.11
L4	-	-	0.06
M	3.00	3.20	3.08
Φ	10	11	10.39

Suggested Pad Layout



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