

FEATURES

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020, LF MAX peak of 245°C (for TO-263 package)
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU



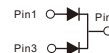
TO-220AB

SR3080LCT



ITO-220AB

SRF3080LCT



TO-263

SR3080LD1



MECHANICAL DATA

- Case: JEDEC TO-220AB、 ITO-220AB、 TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

TYPICAL APPLICATIONS

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

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	SR3080LCT, SRF3080LCT,SR3080LD1	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	80	V
Maximum average forward rectified current (see fig.1)	Per leg	15.0	A
	Total device	30.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	200	A
Peak repetitive reverse current per diode at $t_p=2 \mu s$ 1 KHz	I_{RRM}	0.5	A
Operating junction and Storage temperature range	T_J, T_{stg}	-55 to +150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink $t=1$ min	V_{AC}	1500	V

PRIMARY CHARACTERISTICS	
$I_r(AV)$	2×15A
V_{RRM}	80V
I_{FSM}	200A
V_F at $I_r=15.0A$, Per leg, 25°C	0.60V Typ.
I_R	15 μA
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

RATINGS AND CHARACTERISTIC OF SR3080LCT,SRF3080LCT,SR3080LD1

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg IF=15.0A	T _A =25°C	V _F ¹⁾	0.60	0.68	V
		T _A =100°C		0.59	-	
		T _A =125°C		0.56	-	
	Per leg IF=5.0A	T _A =25°C		0.47	-	
		T _A =100°C		0.40	-	
		T _A =125°C		0.38	-	
Reverse current	VR=80V	T _A =25°C	I _R ²⁾	15	100	μA
		T _A =100°C		3.3	-	mA
		T _A =125°C		13	-	
Typical junction capacitance	4V,1MHz		C _J	770		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Symbol	SR3080LCT	SRF3080LCT	SR3080LD1	Unit
Typical thermal resistance ³⁾	R _{θjc}	2.5	4.5	2.5	°C/W

3.Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L×W×H (mm)	Quantity (pcs/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
SR3080LCT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF3080LCT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR3080LD1-TO-263	P/T	558×148×38	1000	565×225×170	5

RATINGS AND CHARACTERISTIC OF SR3080LCT,SRF3080LCT,SR3080LD1

FIG.1-FORWARD CURRENT DERATING CURVE

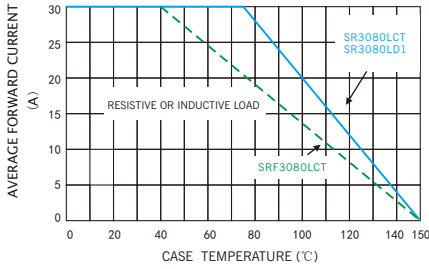


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

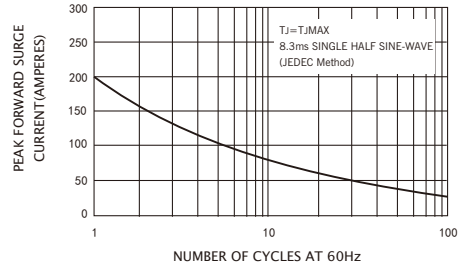


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

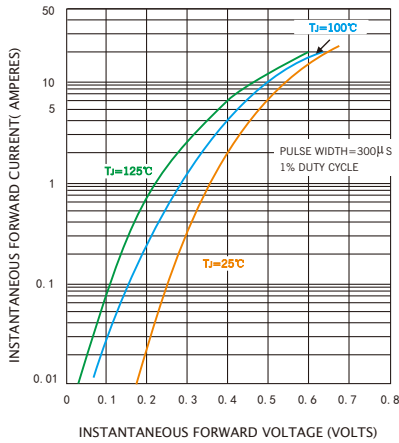


FIG.4-TYPICAL REVERSE CHARACTERISTICS

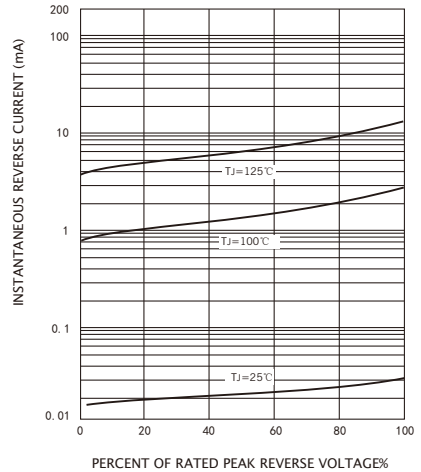
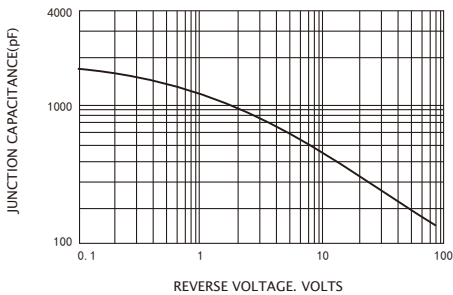
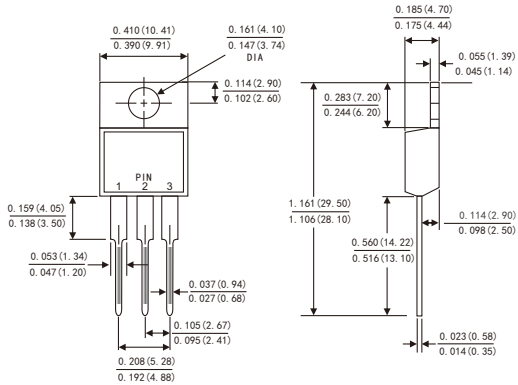


FIG.5-TYPICAL JUNCTION CAPACITANCE

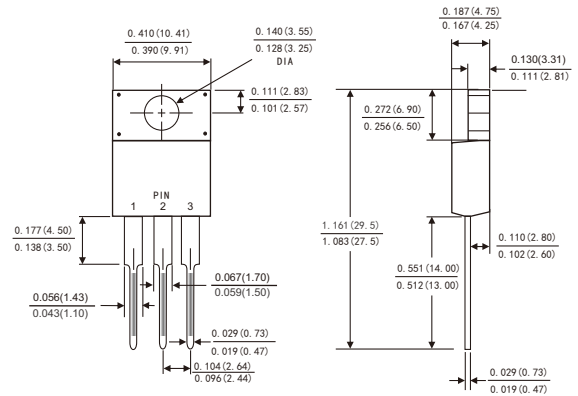


PACKAGE OUTLINE DIMENSIONS

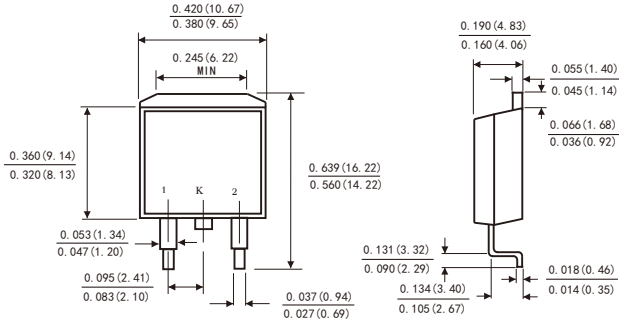
TO-220AB



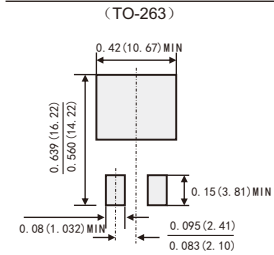
ITO-220AB



TO-263



Suggested Pad Layout



Dimensions in inches and (millimeters)