

### 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 /252package)
- 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



### MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263、TO-252
- 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

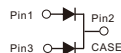
### MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	100	V
Maximum average forward rectified current (see fig.1)	Per leg	10.0	A
	Total device	20.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I <sub>FSM</sub>	200	A
Peak repetitive reverse current per diode at tp=2 μs 1KHz	I <sub>RRM</sub>	0.5	A
Operating junction and Storage temperature range	T <sub>J</sub> , T <sub>stg</sub>	-55 to+150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min	V <sub>AC</sub>	1500	V

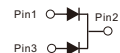
TO-220AB

SR20100CT



ITO-220AB

SRF20100CT



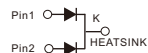
TO-252

SR20100M1



TO-263

SR20100D1



#### PRIMARY CHARACTERISTICS

I <sub>F</sub> (AV)	2×10A
V <sub>RRM</sub>	100V
I <sub>FSM</sub>	200A
V <sub>F</sub> at I <sub>F</sub> =10.0A(125°C)	0.66V
I <sub>r</sub>	5 μ A
T <sub>J</sub> (MAX)	150°C
Package	TO-220AB, ITO-220AB, TO-263, TO-252
Diode variations	Common cathode

# RATINGS AND CHARACTERISTIC OF SR20100CT,SRF20100CT,SR20100D1, SR20100M1

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg IF=10.0A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.80	0.85	V
		T <sub>A</sub> =100°C		0.70	–	
		T <sub>A</sub> =125°C		0.66	–	
	Per leg IF=5.0A	T <sub>A</sub> =25°C		0.53	0.57	
		T <sub>A</sub> =100°C		0.51	–	
		T <sub>A</sub> =125°C		0.50	–	
Reverse current	VR=100V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	–	20	μA
		T <sub>A</sub> =100°C		–	1	mA
		T <sub>A</sub> =125°C		–	3	
Typical junction capacitance	4V, 1MHz		C <sub>J</sub>	260		pF

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

2.Pulse test: pulse width ≤ 40ms

## THERMAL CHARACTERISTICS

Parameter	Symbol	TO-220AB	ITO-220AB	TO-263	TO-252	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJC</sub>	2.5	4.5	2.5	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)
SR20100CT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF20100CT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR20100D1-TO-263	P/T	558×148×38	1000	565×225×170	5
SR20100M1-TO-252	P/T	558×148×38	4000	565×225×170	5

# RATINGS AND CHARACTERISTIC OF SR20100CT,SRF20100CT,SR20100D1, SR20100M1

FIG.1-FORWARD CURRENT DERATING CURVE

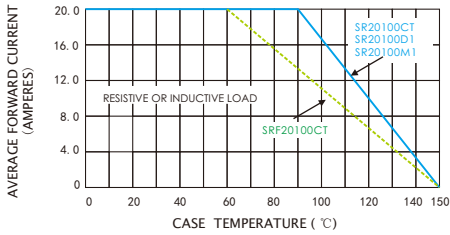


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

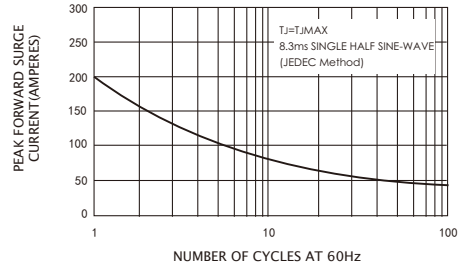


FIG.3-TYPICAL REVERSE CHARACTERISTICS

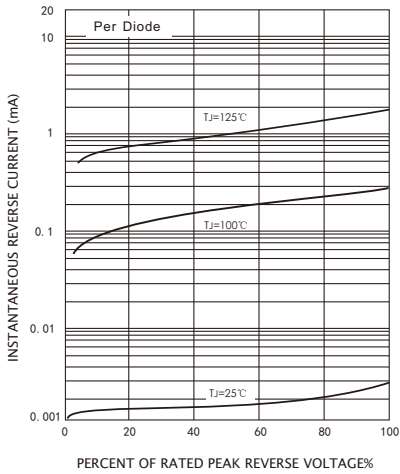


FIG.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

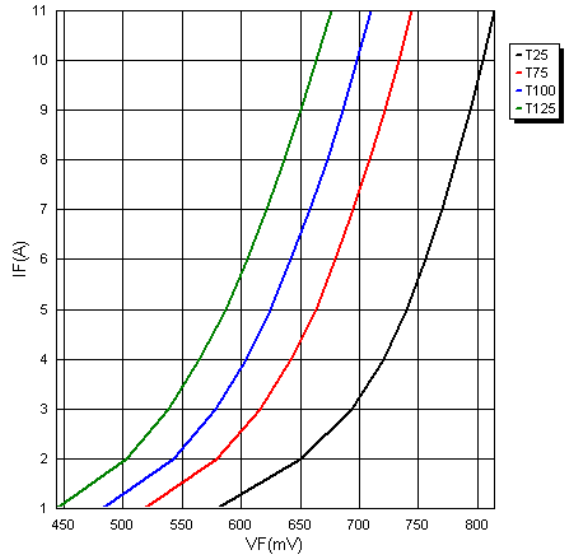
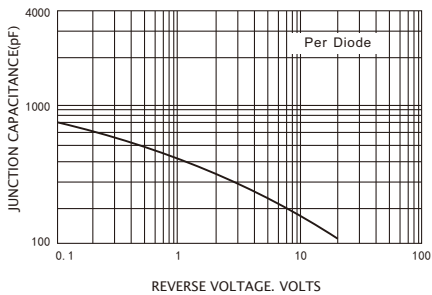


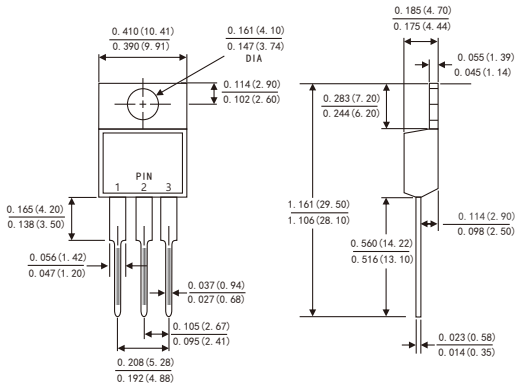
FIG.5-TYPICAL JUNCTION CAPACITANCE



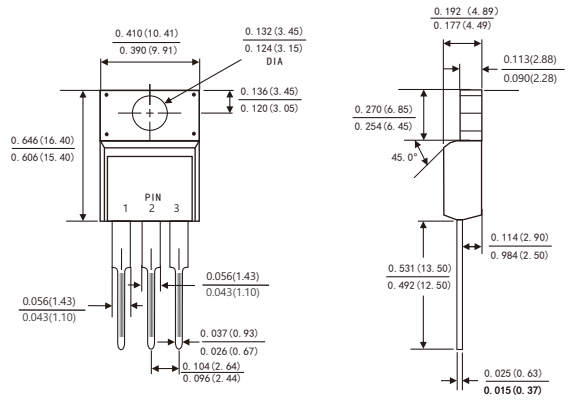
# PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

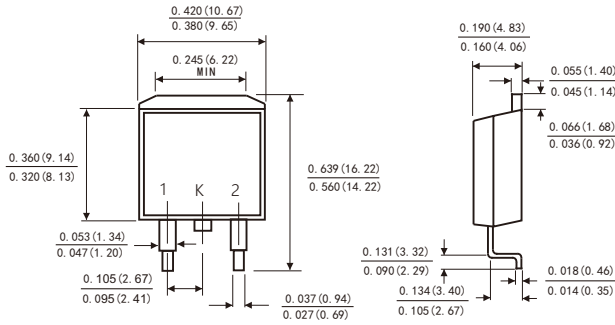
## TO-220AB



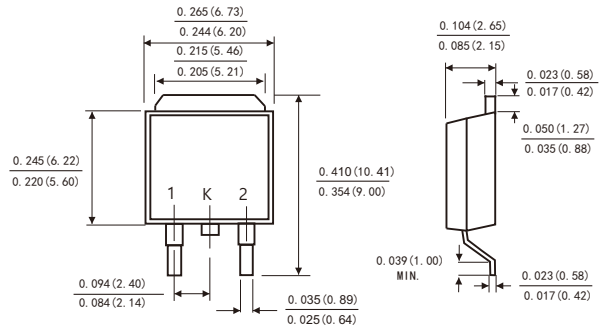
## ITO-220AB



## TO-263

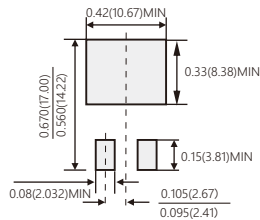


## TO-252



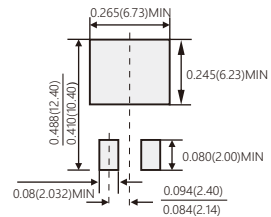
## Suggested Pad Layout

( TO-263 )



## Suggested Pad Layout

( TO-252 )



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