SEMICONDUCTOR

SR20170CT,SRF20170CT,SR20170D1

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 170 Volts
Forward Current - 20.0Amperes

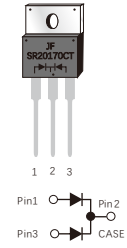
FEATURES

- 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
- Per J-STD-020,LF MAX peak of 260℃ （for TO-263 package）
- Solder bath temperature 275℃ maximum，10s，per JESD22-B106（for TO-220AB and ITO-220AB package）
- Component in accordance to RoHS 2015/863/EU

Pb RoHS COMPLIANT

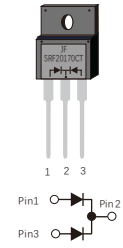
TO-220AB

SR20170CT



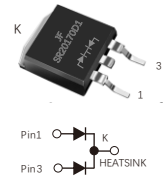
ITO-220AB

SRF20170CT



TO-263

SR20170D1



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℃ ambient temperature unless otherwise specified)

Parameter		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	170	V
Forward rms current		$I_{F(RMS)}$	30.0	A
Maximum average forward rectified current (see fig.1) δ = 0.5, square wave	Per leg	$I_{F(AV)}$	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_{FSM}	200	A
Operating junction and Storage temperature range		T_J ,T_{stg}	-55 to+175	℃

ELECTRICAL CHARACTERISTCS (TA=25℃ Unless otherwise noted)

Parameters	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	Per leg IF=10.0A	TJ=25℃	VF 1)	-	0.90	V
		TJ=125℃		0.70	0.75	
Reverse current	Per leg VR=170V	TJ=25℃	IR 2)	-	5.0	μA
		TJ=125℃		-	5.0	mA
Typical junction capacitance	4V,1MHz		CJ	142		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	TO-220AB	ITO-220AB	TO-263	Unit
Typical thermal resistance 3)	RθJC	1.3	3.5	1.3	℃/W

3.Thermal resistance from junction to case

dPtot/dtj < 1/RθJC thermal runaway conditions for a diode on its heatsink

AVAILABALE PACK INFORMATION

Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Tube Length (mm)	Inner Box Number	Tube Number Per A Inner Box	Part Number Per A Tube	Quantity(carton) (K)
SR20170CT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF20170CT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR20170D1-TO-263	Tube	565×225×170	548×151×37	538	5	20	50	5
Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Reel Diameter (mm)	Inner Box Number	Reel Number Per A Inner Box	Part Number Per A Reel	Quantity(carton) (K)
SR20170D1-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

SEMICONDUCTOR

RATINGS AND CHARACTERISTIC OF SR20170CT,SRF20170CT,SR20170D1

FIG.1-FORWARD CURRENT DERATING CURVE

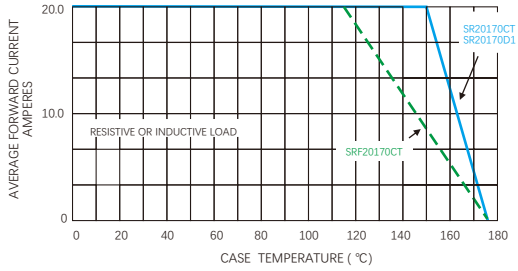


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

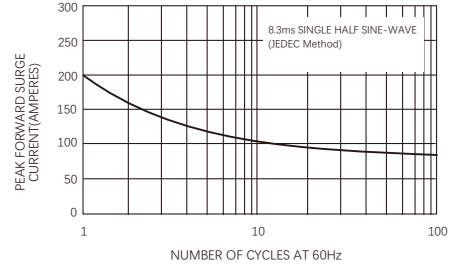


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

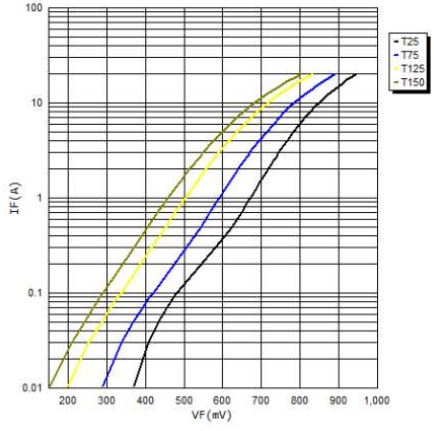


FIG.4-TYPICAL REVERSE CHARACTERISTICS

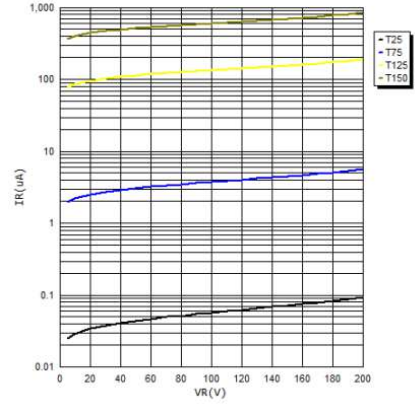
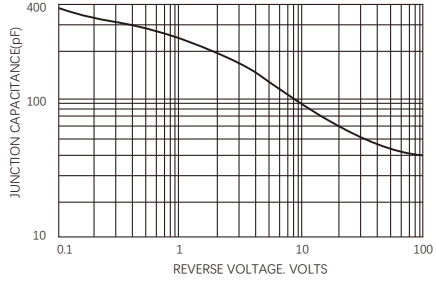
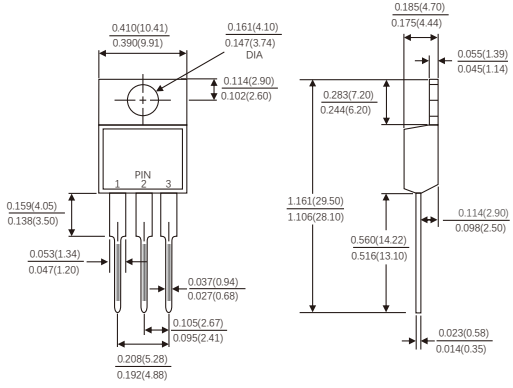


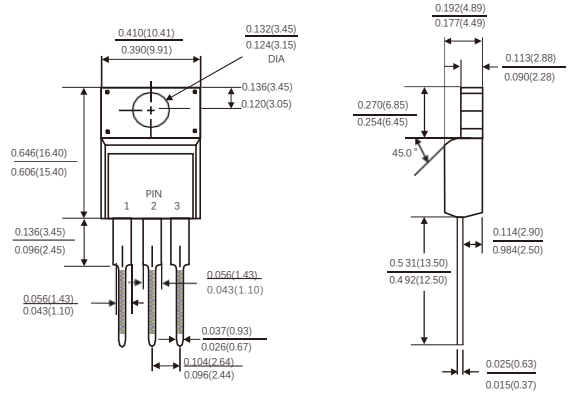
FIG.5-TYPICAL JUNCTION CAPACITANCE



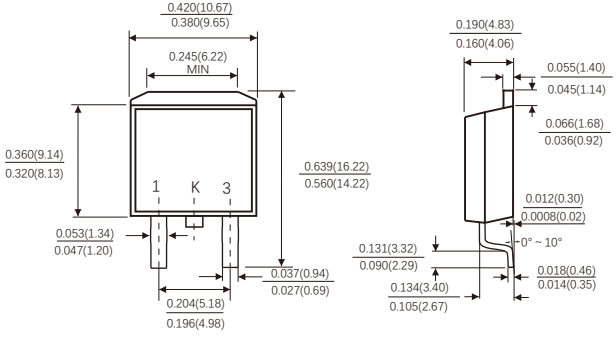
TO-220AB



ITO-220AB

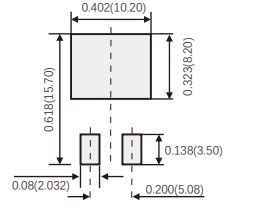


TO-263



Suggested Pad Layout

(TO-263)



（设计者可参考推荐值根据焊接工艺
要求自行确定适合的焊盘尺寸）
(Designers can refer to the recommended
values according to the manufacturing process
requirements to determine the appropriate pad size)

Dimensions in inches and (millimeters)

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