SEMICONDUCTOR

SP20U45L

LOW VF SCHOTTKY BARRIER RECTIFIER

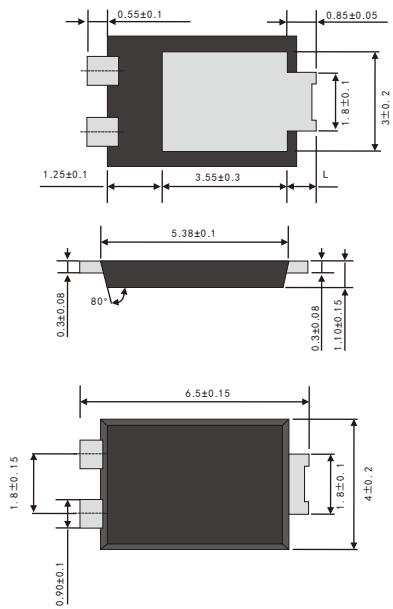
Reverse Voltage - 45Volts
Forward Current - 20.0Amperes

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
- Very low profile–typical height of 1. 1mm
- Ideal for automated placement
- High temperature soldering guaranteed:260℃/10 seconds at terminals
  Component in accordance to RoHS 2011/65/EU

Pb
RoHS
COMPLIANT

TO–277

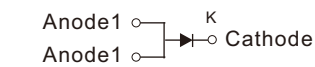


MECHANICAL DATA

- Case: TO–277 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Mounting Position: Any
- Weight: 0. 092 grams (approx)

TYPICAL APPLICATIONS

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



Dimensions in inches and (millimetrers)

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum average forward rectified current	$I_{F(AV)}$	20.0	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	℃

Download from alldatasheet.com

RATINGS AND CHARACTERISTIC OF SP20U45L

ELECTRICAL CHARACTERISTCS (T_A=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	T_J=25℃	I_F=20A	V_F 1)	0.48	0.52	V
		I_F=10A		0.40	–	
		I_F=5A		0.35	–	
	T_J=125℃	I_F=20A		0.46	–	
		I_F=10A		0.35	–	
		I_F=5A		0.27	–	
Reverse current	V_R=45V	T_A=25℃	I_R 2)	100	200	μA
		T_A=100℃		7	–	mA
		T_A=125℃		30	–	
Typical junction capacitance	4V,1MHz		CJ	6000		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	TO-277	Unit
Typical thermal resistance 3)	$R_{\theta}JA$	60.0	℃/W
	$R_{\theta}JL$	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

AVAILABALE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
SP20U45L-TO-277	T/R	φ330	5000	338×338×40	2	365×365×360	7

Download from alldatasheet.com

RATINGS AND CHARACTERISTIC OF SP20U45L

FIG.1-FORWARD CURRENT DERATING CURVE

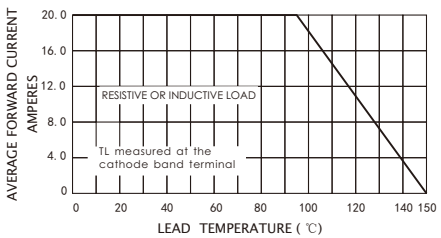


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

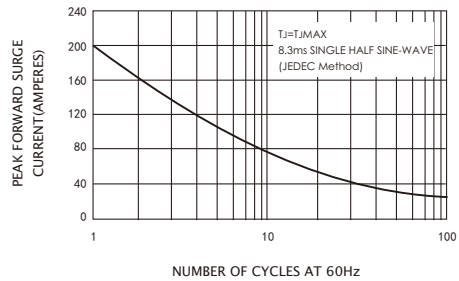


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

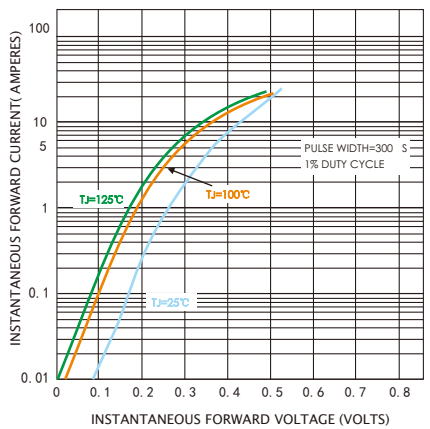


FIG.4-TYPICAL REVERSE CHARACTERISTICS

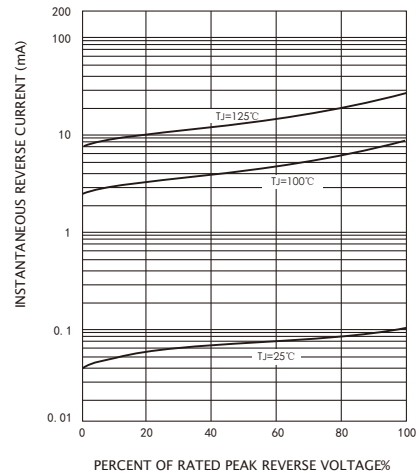
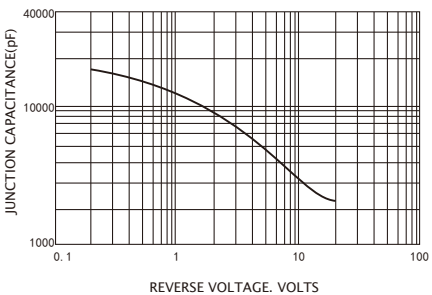


FIG.5-TYPICAL JUNCTION CAPACITANCE



Download from alldatasheet.com