SEMICONDUCTOR

SP20U150SL

ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 150Volts
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 2015/863/EU

Pb RoHS COMPLIANT

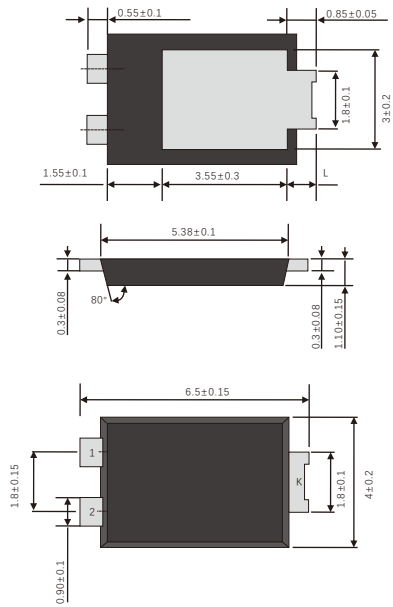
MECHANICAL DATA

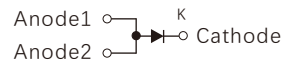
- Case: TO-277 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Mounting Position: Any
- Weight: 0.092 grams(approx)

TYPICAL APPLICATIONS

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

TO-277





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}	150	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}	270	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

ELECTRICAL CHARACTERISTCS (TA=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	MAX.	Unit
Instaneous forward voltage	T_j=25℃	I_F=20A	V_F 1)	0.83	0.90	V
		I_F=10A		0.74	-	
		I_F=5A		0.64	-	
	T_j=125℃	I_F=20A		0.75	-	
		I_F=10A		0.62	-	
		I_F=5A		0.53	-	
Reverse current	V_R=150V	T_j=25℃	I_R 2)	-	15	μA
		T_j=125℃		-	8.0	mA
Typical junction capacitance	4V,1MHz		C_J	620		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)	$R_{\theta JA}$ 4)	60.0	℃/W
	$R_{\theta JL}$	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

4 The heat generated must be less than thermal conductivity from junction to ambient:$dP_D/dt_J < 1/R_{\theta JA}$

AVAILABALE PACK INFORMATION

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(K)	Quantity(carton) (K)
SP20U150SL -TO-277	Reel	370×370×360	338×338×39	φ330	7	2	5	70

FIG.1-FORWARD CURRENT DERATING CURVE

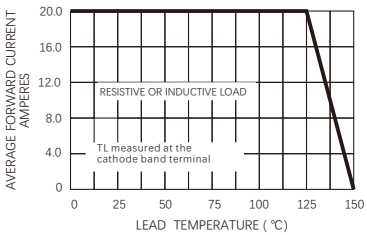


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

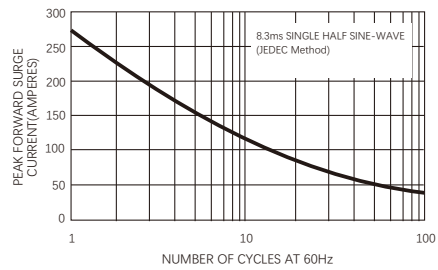


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

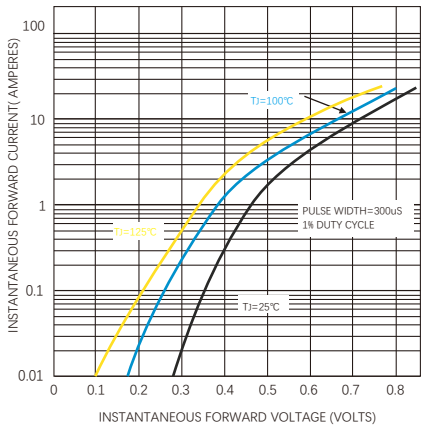


FIG.4-TYPICAL REVERSE CHARACTERISTICS

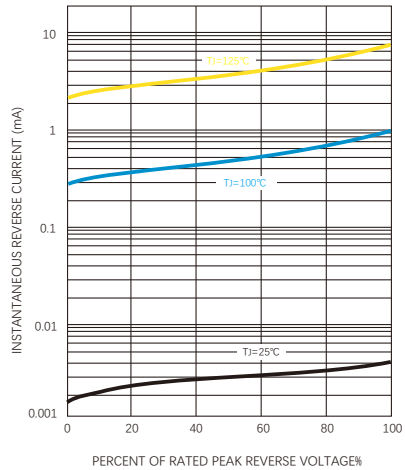
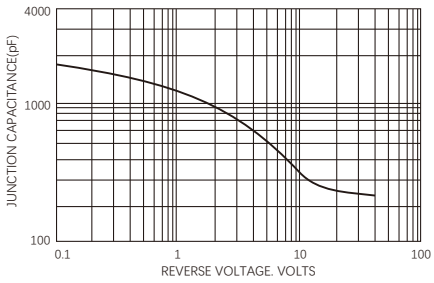
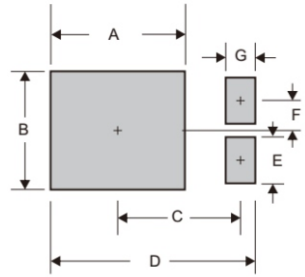


FIG.5-TYPICAL JUNCTION CAPACITANCE



Suggested Pad

■ TO-277 foot print



A	B	C	D	E	F	G
0.185 (4.70)	0.142 (3.60)	0.152 (3.87)	0.260 (6.60)	0.055 (1.40)	0.035 (0.90)	0.031 (0.80)

Dimensions in inches and (millimeters)

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