SEMICONDUCTOR

SP20U80L

LOW VF SCHOTTKY BARRIER RECTIFIER

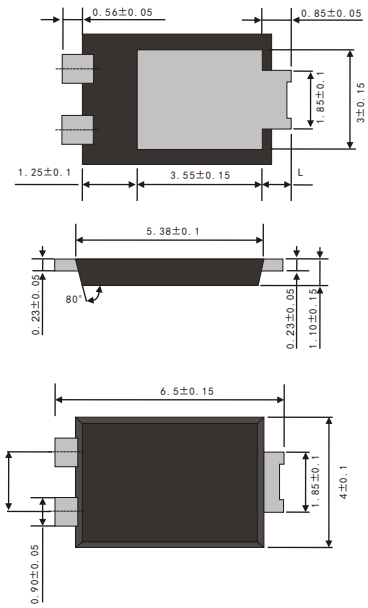
Reverse Voltage - 80Volts
Forward Current - 20.0Amperes

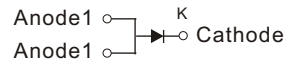
FEATURES

- 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





Dimensions in inches and (millimetrers)

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

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	SP20U80L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	80	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	℃

RATINGS AND CHARACTERISTIC OF SP20U80L

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. 60	0. 65	V
		I_F=10A		0. 50	–	
		I_F=5A		0. 42	–	
	T_J=125℃	I_F=20A		0. 55	–	
		I_F=10A		0. 42	–	
		I_F=5A		0. 33	–	
Reverse current	V_R=80V	T_A=25℃	I_R 2)	50	100	μA
		T_A=100℃		5	–	mA
		T_A=125℃		20	–	
Typical junction capacitance	4V, 1MHz		C_J	750		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Symbol	SP20U80L	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:$dP_D/dt_J < 1/R_{\theta JA}$

AVAILABAL PACK INFORMATION

Product code	Pack	Box Size L*W*H(mm)	Quantity(pcs/box)	Carton SizeL*W*H(mm)	Quantity(box/carton)
SP20U80L-TO-277	T/B	340*340*50	10K	365*350*350	6

RATINGS AND CHARACTERISTIC OF SP20U80L

FIG.1-FORWARD CURRENT DERATING CURVE

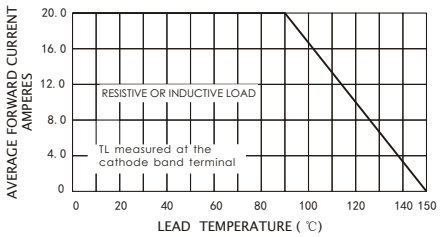


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

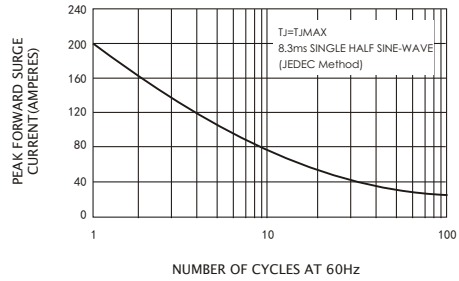


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

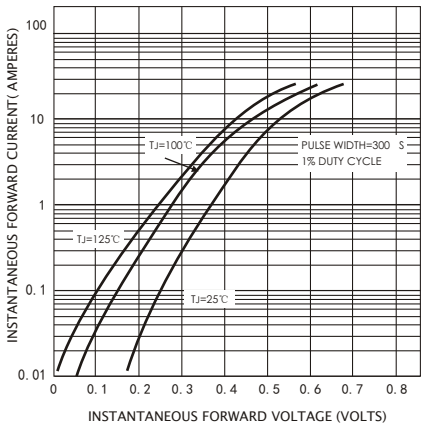


FIG.4-TYPICAL REVERSE CHARACTERISTICS

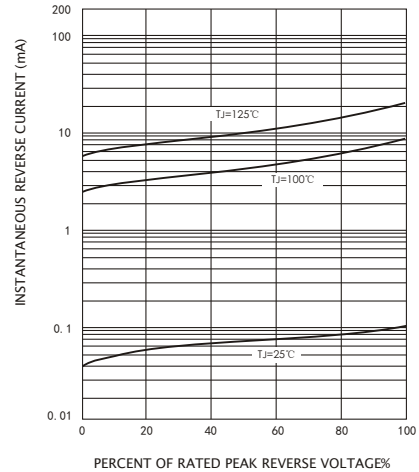


FIG.5-TYPICAL JUNCTION CAPACITANCE

