SEMICONDUCTOR

SP5U45L

SCHOTTKY BARRIER RECTIFIER

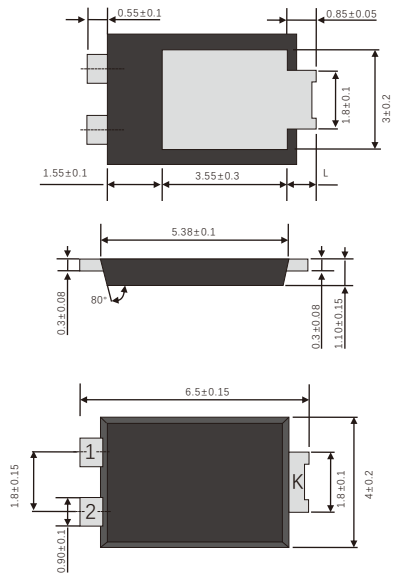
Reverse Voltage - 45Volts
Forward Current - 5.0Amperes

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

TO-277

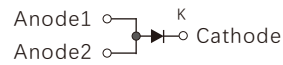


MECHANICAL DATA

- 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	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	80	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	IF=5.0A	TJ=25℃	VF 1)	0.45	0.47	V
		TJ=100℃		0.39	-	
		TJ=125℃		0.37	-	
	IF=3.0A	TJ=25℃		0.41	-	
		TJ=100℃		0.35	-	
		TJ=125℃		0.31	-	
Reverse current	VR=40V	TJ=25℃	IR 2)	-	200	μA
		TJ=100℃		-	15	mA
		TJ=125℃		-	50	
Typical junction capacitance	4V,1MHz		CJ	370		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)	RθJA 4)	60.0	℃/W
	RθJL	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)
SP5U45L-TO-277	Reel	370×370×360	338×338×39	φ330	7	2	5	70

RATINGS AND CHARACTERISTIC OF SP5U45L

FIG.1-FORWARD CURRENT DERATING CURVE

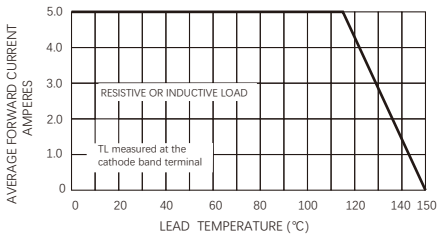


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

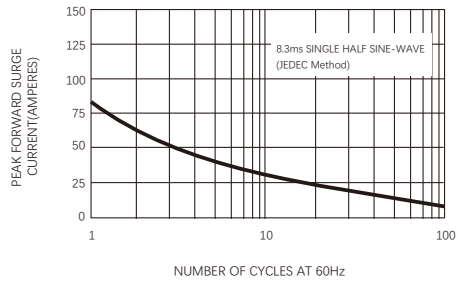


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

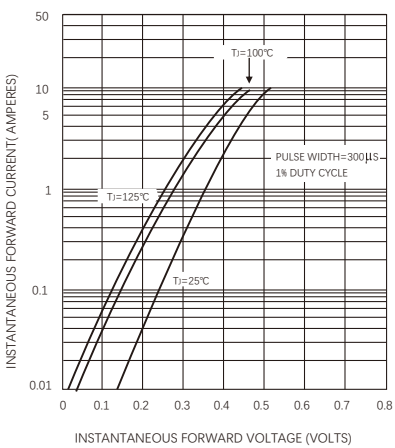


FIG.4-TYPICAL REVERSE CHARACTERISTICS

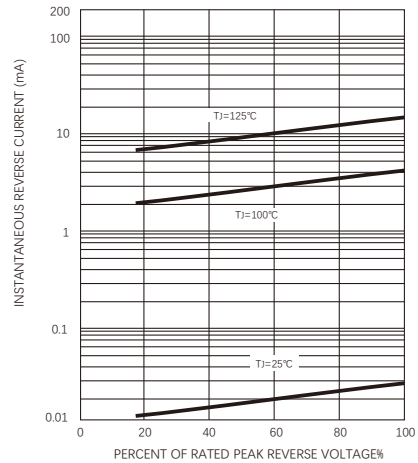
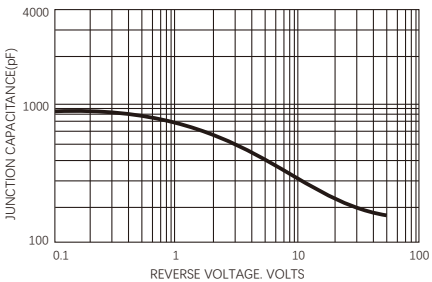


FIG.5-TYPICAL JUNCTION CAPACITANCE



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