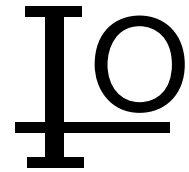


# SP10U50L

LOW VF SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 50Volts Forward Current - 10.0Amperes



## FEATURS

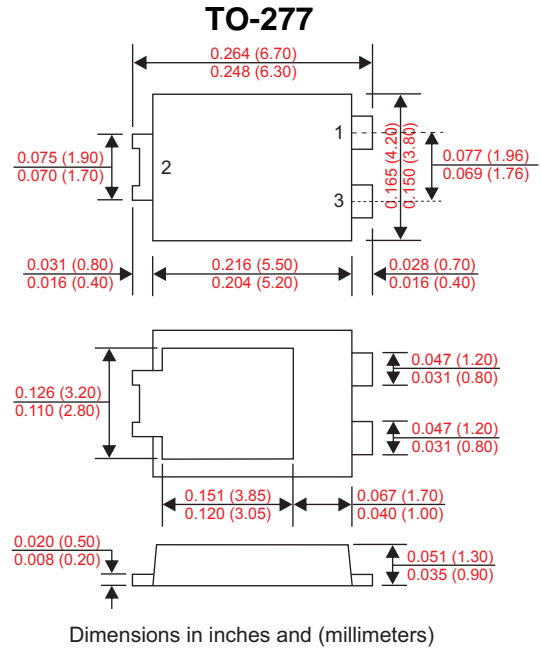
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
  - Metal silicon junction ,majority carrier conduction
  - Guard ring for overvoltage protection
  - Low power loss ,high efficiency
  - High current capability ,low forward voltage drop
  - High surge capability
  - Very low profile-typical height of 1.1mm
  - Ideal for automated placement
  - High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

## 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)
- Lead Free:Finish / RoHS Compliant

Unit: mm

PIN 2 PIN 1  
PIN 3



## TYPICAL PPLICATIONS

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

## MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	SP10U50L	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	V
Maximum average forward rectified current	$I_{F(AV)}$	10.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	150	A
Operating junction temperature range	$T_j$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

# RATINGS AND CHARACTERISTIC OF SP10U50L

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	T <sub>J</sub> =25°C	I <sub>F</sub> =10A	V <sub>F</sub> <sup>1)</sup>	0.43	0.47	V
		I <sub>F</sub> =5A		0.37	-	
		I <sub>F</sub> =3A		0.35	-	
	T <sub>J</sub> =125°C	I <sub>F</sub> =10A		0.38	-	
		I <sub>F</sub> =5A		0.30	-	
		I <sub>F</sub> =3A		0.25	-	
Reverse current	V <sub>R</sub> =50V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	80	200	μA
		T <sub>A</sub> =100°C		8	15	mA
		T <sub>A</sub> =125°C		20	50	
Typical junction capacitance	4V, 1MHz		C <sub>j</sub>	1100		pF

Notes: 1.Pulse test: 300 μs pulse width, 1% duty cycle  
2.Pulse test: pulse width ≤ 40ms

## THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	SP10U50L	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJA</sub>	60.0	°C/W
	R <sub>θJL</sub>	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

## AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L*W*H(mm)	Quantity(pcs/box)	Carton Size L*W*H(mm)	Quantity(box/carton)
SP10U50L-TO-277	T/B	340*340*50	10K	365*350*350	6

# RATINGS AND CHARACTERISTIC OF SP10U50L

FIG.1-FORWARD CURRENT DERATING CURVE

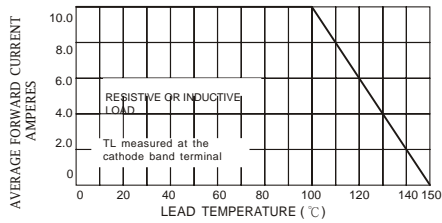


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

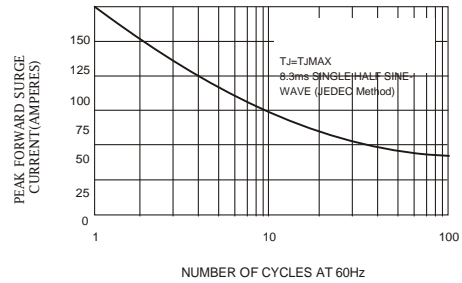


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

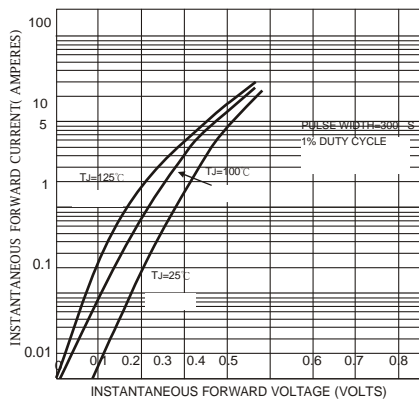


FIG.4-TYPICAL REVERSE CHARACTERISTICS

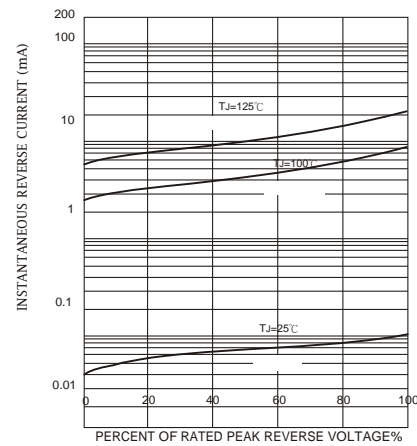


FIG.5-TYPICAL JUNCTION CAPACITANCE

