

### FEATURES

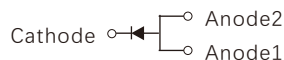
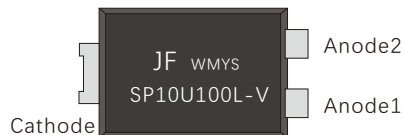
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- Very low profile-typical height of 1.1mm
- Ideal for automated placement
- High temperature soldering guaranteed:260°C/10 seconds at terminals  
Component in accordance to RoHS 2015/863/EU
- **AEC-Q101 qualified and PPAP capable**



**AEC-Q101 Qualified**

### 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)



MARKING:  
JF-Logo  
W-Work week  
M-Work month  
Y-Work year  
S-Assembly location  
SP10U100L-Device code  
V-for automobile

### TYPICAL APPLICATIONS

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	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	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)	$I_{FSM}$	200	A
Operating junction temperature range	$T_j$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I <sub>F</sub> =10.0A	T <sub>J</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.66	0.73	V
		T <sub>J</sub> =100°C		0.60	-	
		T <sub>J</sub> =125°C		0.58	-	
	I <sub>F</sub> =5.0A	T <sub>J</sub> =25°C		0.51	-	
		T <sub>J</sub> =100°C		0.48	-	
		T <sub>J</sub> =125°C		0.46	-	
Reverse current	V <sub>R</sub> =100V	T <sub>J</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	-	50	μA
		T <sub>J</sub> =100°C		-	5.0	mA
		T <sub>J</sub> =125°C		-	20	
Typical junction capacitance	4V,1MHz		C <sub>J</sub>	736		pF

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

2.Pulse test: pulse width ≤40ms

## THERMAL CHARACTERISTICS

Parameter	Symbol	TO-277	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJA</sub>	60.0	°C/W
	R <sub>θL</sub>	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

## AVAILABLE 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)
SP10U100L-V- TO-277	Reel	370×370×360	338×338×39	φ330	7	2	5	70

# RATINGS AND CHARACTERISTICS OF SP10U100L-V

FIG.1-FORWARD CURRENT DERATING CURVE

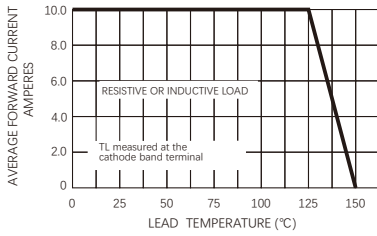


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

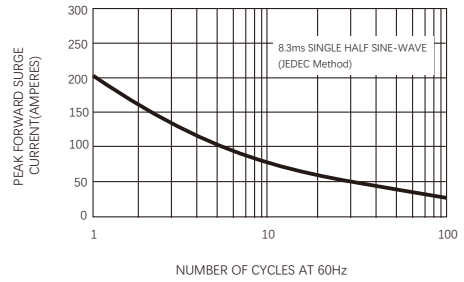


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

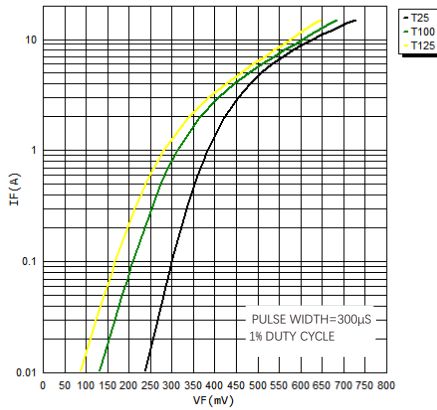


FIG.4-TYPICAL REVERSE CHARACTERISTICS

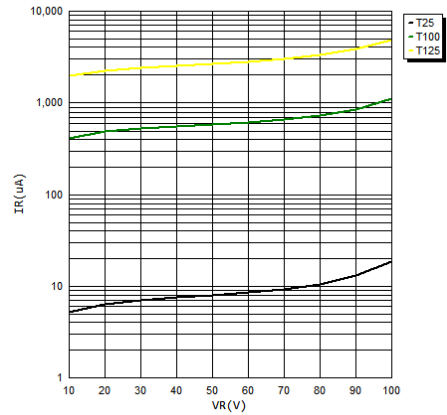
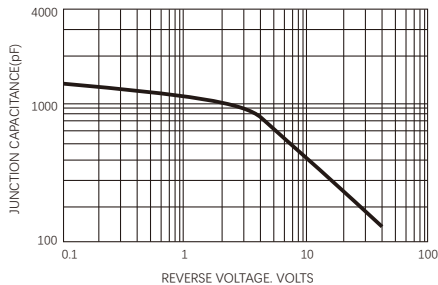
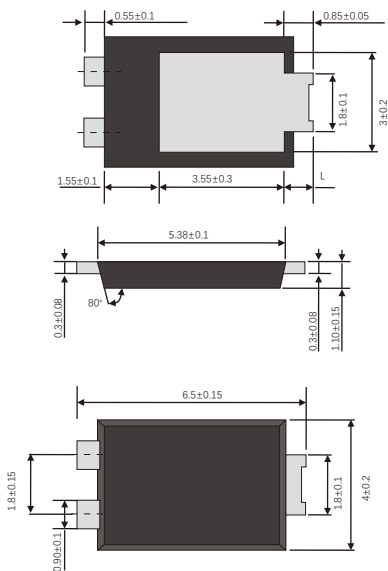


FIG.5-TYPICAL JUNCTION CAPACITANCE

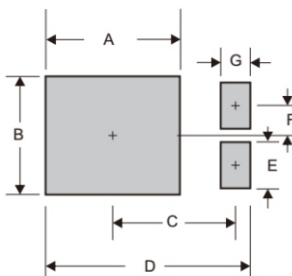


## TO-277



### 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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