

TO-277

FEATURES

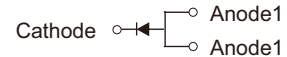
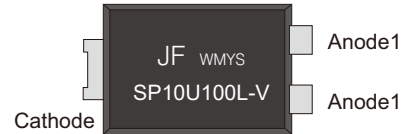
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- Very low profile –typical height of 1.1mm
- Ideal for automated placement
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU
- **AEC-Q101 qualified and PPAP capable**



AEC-Q101 Qualified

MECHANICAL DATA

- Case: TO-277 molded plastic body
- Terminals: Plated 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}	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 SP10U100L-V

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	I _F =10.0A	T _A =25°C	V _F ¹⁾	0.63	0.70	V
		T _A =100°C		0.61	—	
		T _A =125°C		0.59	—	
	I _F =5.0A	T _A =25°C		0.52	—	
		T _A =100°C		0.49	—	
		T _A =125°C		0.47	—	
Reverse current	V _R =100V	T _A =25°C	I _R ²⁾	40	100	μA
		T _A =100°C		5	10	mA
		T _A =125°C		15	30	
Typical junction capacitance	4V,1MHz		C _J	570		pF

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

2.Pulse test: pulse width ≤40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	TO-277	Unit
Typical thermal resistance ³⁾	R _{θJA}	60.0	°C/W
	R _{θJL}	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

AVAILABLE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
SP10U100L-TO-277	T/R	φ330	5000	338×338×40	2	365×365×360	7

RATINGS AND CHARACTERISTIC OF SP10U100L-V

FIG.1-FORWARD CURRENT DERATING CURVE

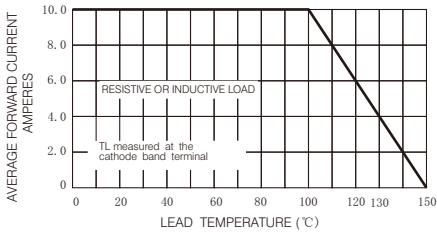


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

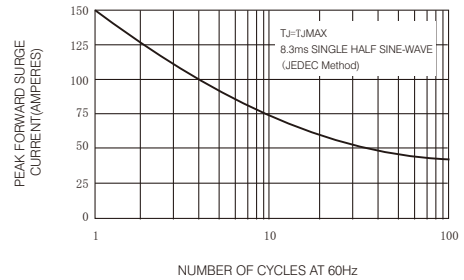


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

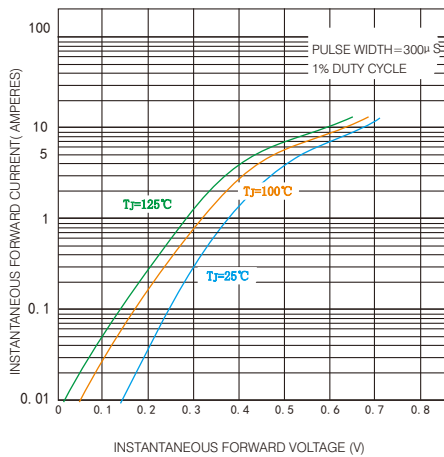


FIG.4-TYPICAL REVERSE CHARACTERISTICS

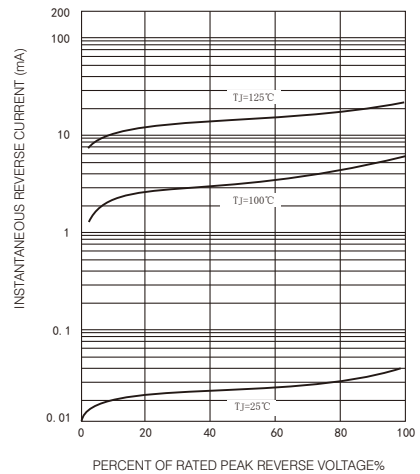
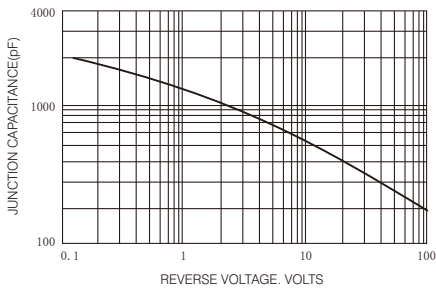
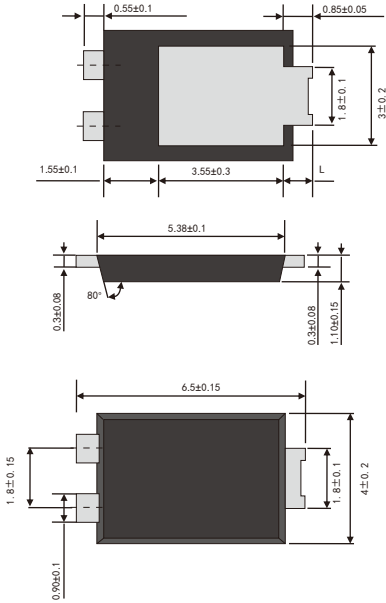


FIG.5-TYPICAL JUNCTION CAPACITANCE



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TO-277



Dimensions in inches and (millimeters)