

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 ,Ultra-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**

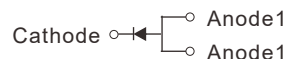
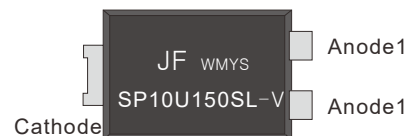


AEC-Q101 Qualified

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

MARKING:
JF-Logo
W-Work week
M-Work month
Y-Work year
S-Assembly loaction
SP10U150SL-Device code
V-for automobile

Maximum Ratings

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	150	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
Rating for fusing($t < 8.3ms$)	I^2t	166	A ² S
Operating junction temperature range	T_j	-55 to +150	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	T _A =25°C	I _F =3.0A	V _F ¹⁾	0.62	–	V
		I _F =5.0A		0.67	–	
		I _F =10.0A		0.74	0.80	
	T _A =125°C	I _F =3.0A		0.50	–	
		I _F =5.0A		0.54	–	
		I _F =10.0A		0.60	–	
Reverse current	V _R =150V	T _A =25°C	I _R ²⁾	–	10	μA
		T _A =100°C		–	3.5	mA
		T _A =125°C		–	15	
Typical junction capacitance	4V, 1MHz		C _J	410		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 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)
SP10U150L-V-TO-277	T/R	φ 330	5000	338×338×40	2	365×365×360	7

FIG.1-FORWARD CURRENT DERATING CURVE

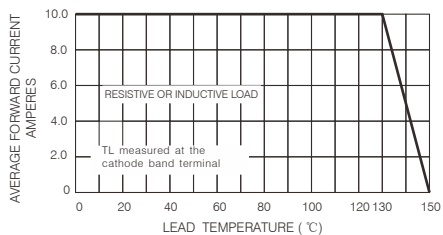


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

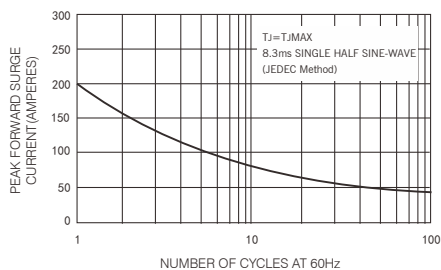


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

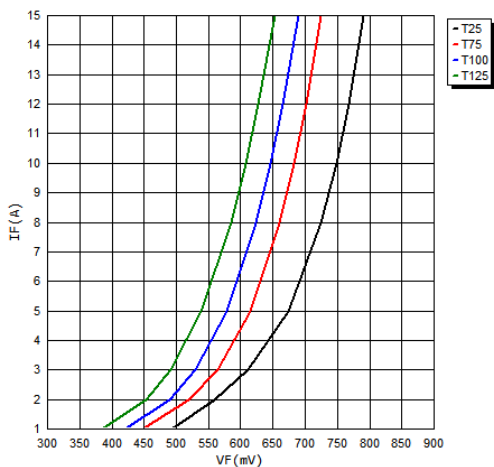
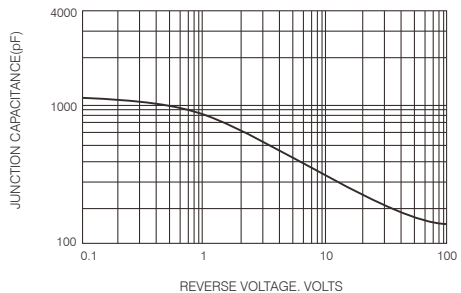
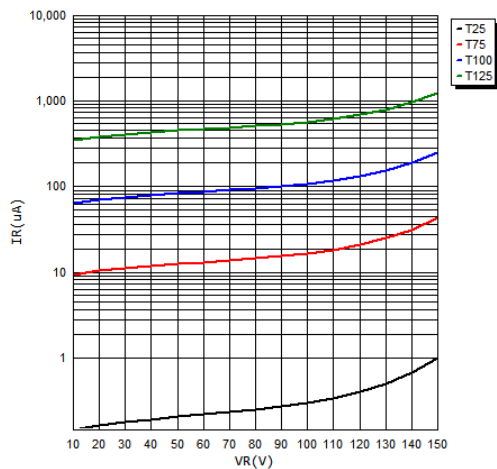
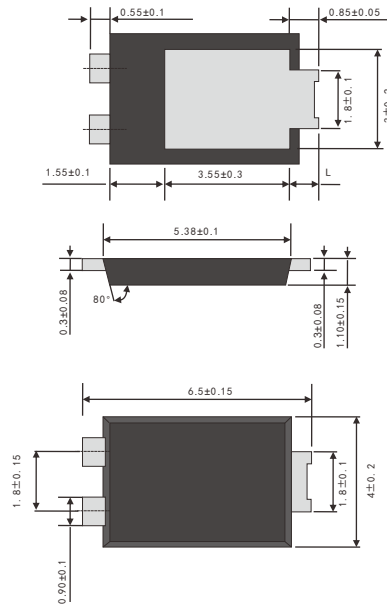


FIG.4-TYPICAL REVERSE CHARACTERISTICS



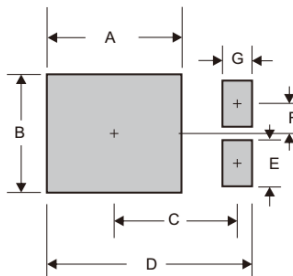
TO-277



Dimensions in millimeters

Suggested Pad

■ TO-277B 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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