

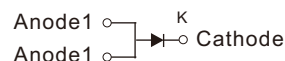
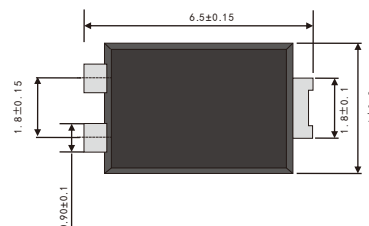
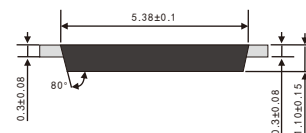
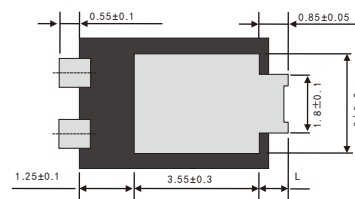
FEATURES

- 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



RoHS
COMPLIANT

TO-277



Dimensions in inches and (millimeters)

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

MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	300	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}	120	A
Operating junction temperature range	T _J	-55 to+150	°C
Storage temperature range	T _{stg}	-55 to+150	°C

RATINGS AND CHARACTERISTIC OF SP5U300L

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I _F =5.0A	T _A =25°C	V _F ¹⁾	0.81	0.85	V
		T _A =100°C		0.71	—	
		T _A =125°C		0.67	—	
	I _F =2.0A	T _A =25°C		0.74	—	
		T _A =100°C		0.63	—	
		T _A =125°C		0.59	—	
Reverse current	V _R =300V	T _A =25°C	I _R ²⁾	—	10	μA
		T _A =100°C		—	0.5	mA
		T _A =125°C		—	1.5	
Typical junction capacitance	4V, 1MHz		C _J	93		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)
SP5U300L-TO-277	T/R	φ 330	5000	338×338×40	2	365×365×360	7

RATINGS AND CHARACTERISTIC OF SP5U300L

FIG.1-FORWARD CURRENT DERATING CURVE

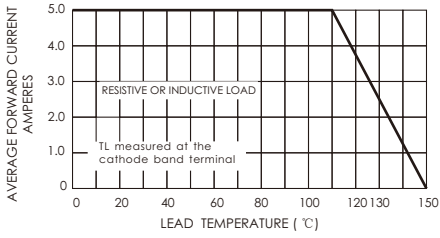


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

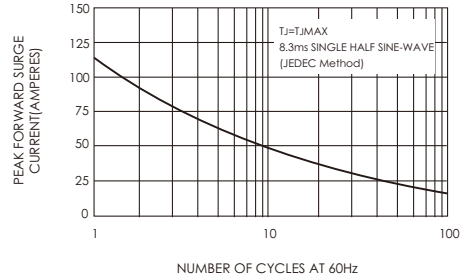


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

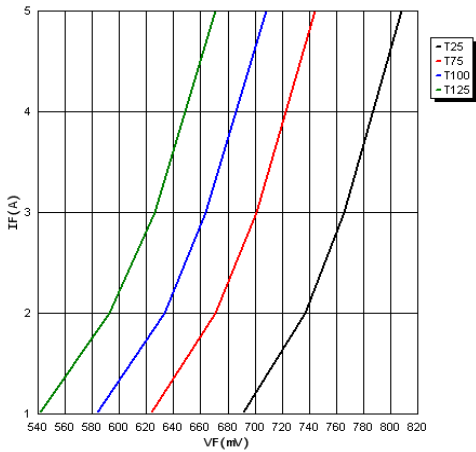


FIG.4-TYPICAL REVERSE CHARACTERISTICS

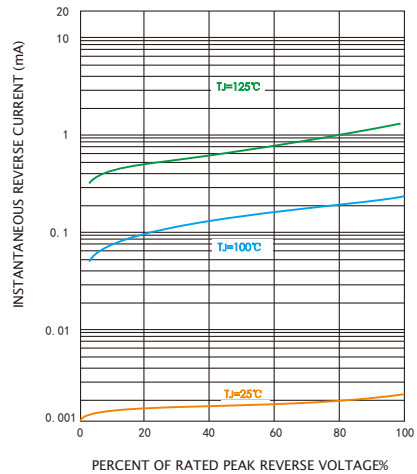


FIG.5-TYPICAL JUNCTION CAPACITANCE

