

FEATURES

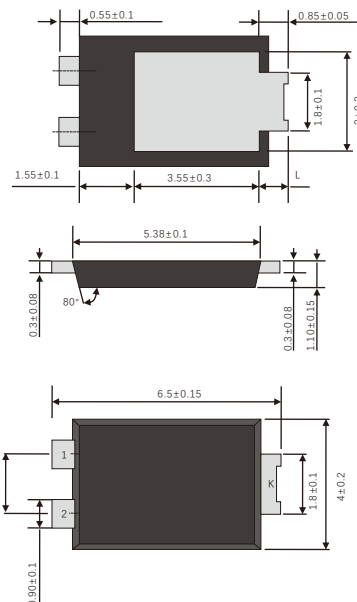
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- Very low profile-typical height of 1.1mm
- Ideal for automated placement
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/65/EU



MECHANICAL DATA

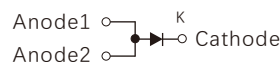
- Case: TO-277 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Mounting Position: Any
- Weight: 0.092 grams(approx)

TO-277



TYPICAL APPLICATIONS

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



Dimensions in inches and (millimeters)

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	$I_F(AV)$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	80	A
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	I _F =5.0A	T _A =25°C	V _F ¹⁾	0.65	0.70	V
		T _A =100°C		0.62	-	
		T _A =125°C		0.60	-	
	I _F =2.0A	T _A =25°C		0.50	-	
		T _A =100°C		0.46	-	
		T _A =125°C		0.45	-	
Reverse current	V _R =100V	T _A =25°C	I _R ²⁾	10	50	μA
		T _A =100°C		-	5	mA
		T _A =125°C		-	20	
Typical junction capacitance	4V,1MHz		C _J	370		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	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)
SP5U100L- TO-277	Reel	370×370×360	338×338×39	φ330	7	2	5	70

FIG.1-FORWARD CURRENT DERATING CURVE

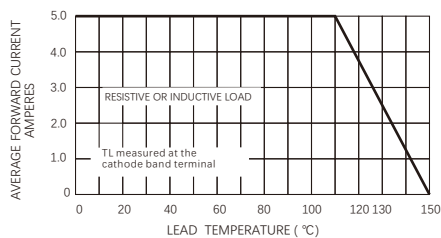


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

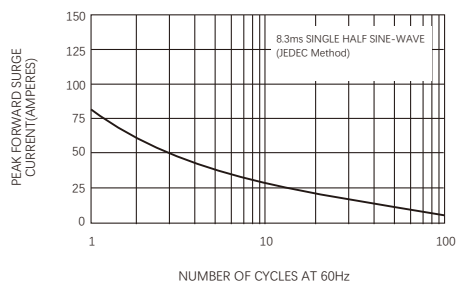


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

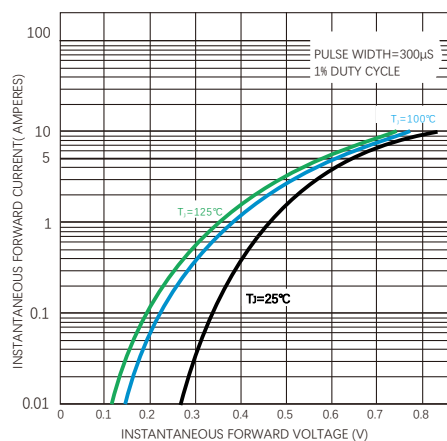


FIG.4-TYPICAL REVERSE CHARACTERISTICS

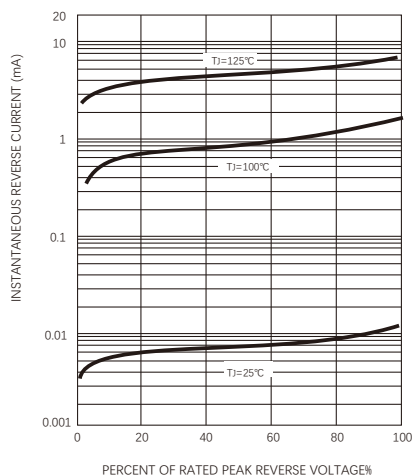
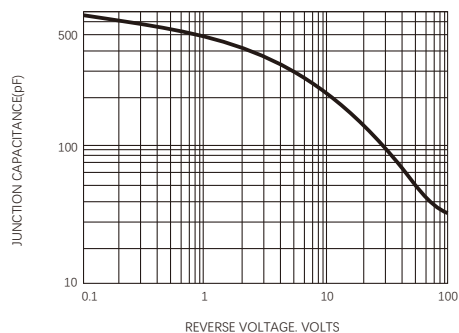


FIG.5-TYPICAL JUNCTION CAPACITANCE



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