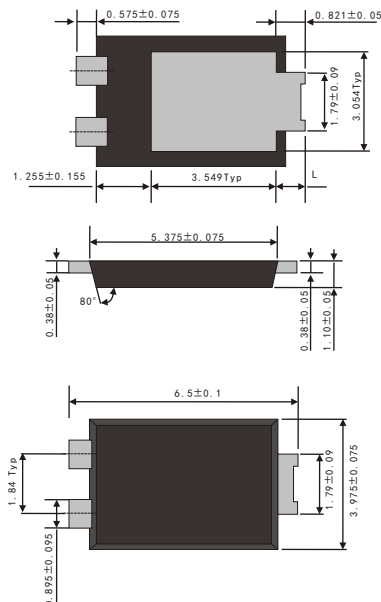


FEATURES

- 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 and
WEEE 2012/19/EU



TO-277

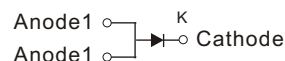


MECHANICAL DATA

- 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



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

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

Parameter	Symbol	SP15U45L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum average forward rectified current	$I_{F(AV)}$	15.0	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 SP15U45L

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	$T_J=25^{\circ}\text{C}$	$I_F=15\text{A}$	V_F ¹⁾	0.45	0.47	V
		$I_F=10\text{A}$		0.42	—	
		$I_F=5\text{A}$		0.36	—	
	$T_J=125^{\circ}\text{C}$	$I_F=15\text{A}$		0.43	0.45	
		$I_F=10\text{A}$		0.36	—	
		$I_F=5\text{A}$		0.28	—	
Reverse current	$V_R=45\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	80	200	μA
		$T_A=100^{\circ}\text{C}$		8	15	mA
		$T_A=125^{\circ}\text{C}$		20	50	
Typical junction capacitance	4V, 1MHz		CJ	750		pF

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

2.Pulse test: pulse width \leq 40ms

THERMAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Symbol	SP15U45L	Unit
Typical thermal resistance ³⁾	$R_{\theta JA}$	60.0	$^{\circ}\text{C}/\text{W}$
	$R_{\theta JL}$	3.0	

3 Units mounted on recommended PCB 1 oz. Pad layout

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L*W*H(mm)	Quantity (pcs/box)	Carton SizeL*W*H(mm)	Quantity (box/carton)
SP15U45L-TO-277	T/B	340*340*50	10K	365*350*350	6

RATINGS AND CHARACTERISTIC OF SP15U45L

FIG.1-FORWARD CURRENT DERATING CURVE

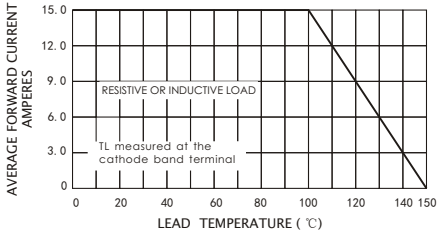


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

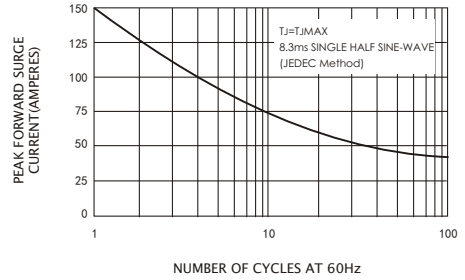


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

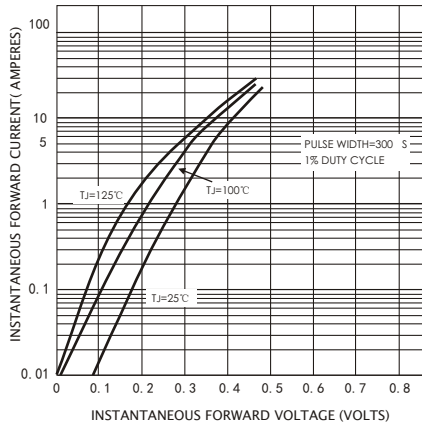


FIG.4-TYPICAL REVERSE CHARACTERISTICS

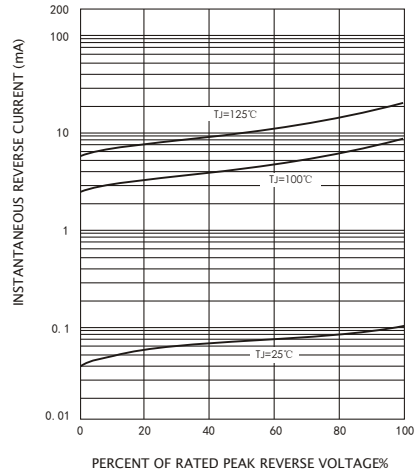


FIG.5-TYPICAL JUNCTION CAPACITANCE

