

LOW VF SCHOTTKY BARRIER RECTIFIER

Features :

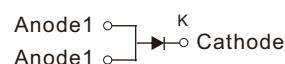
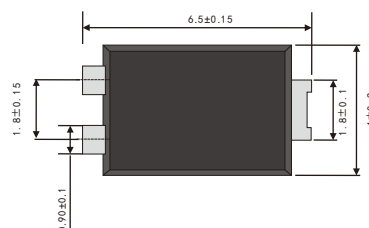
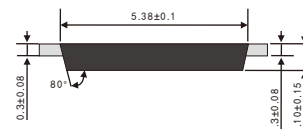
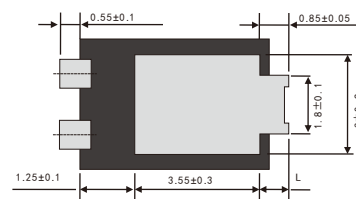
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
 - Metal silicon junction ,majority carrier conduction
 - Guard ring for overvoltage protection
 - Low power loss ,high efficiency
 - High current capability ,low forward voltage drop
 - High surge capability
 - Very low 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



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

MAXIMUM RATINGS

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

Dimensions in inches and (millimeters)

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 KSP5U300L

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_F=5.0\text{A}$	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.81	0.85	V
		$T_A=100^{\circ}\text{C}$		0.71	—	
		$T_A=125^{\circ}\text{C}$		0.67	—	
	$I_F=2.0\text{A}$	$T_A=25^{\circ}\text{C}$		0.74	—	
		$T_A=100^{\circ}\text{C}$		0.63	—	
		$T_A=125^{\circ}\text{C}$		0.59	—	
Reverse current	$V_R=300\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	—	10	μA
		$T_A=100^{\circ}\text{C}$		—	0.5	mA
		$T_A=125^{\circ}\text{C}$		—	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 $\leq 40\text{ms}$

THERMAL CHARACTERISTICS

Parameter	Symbol	TO-277	Unit
Typical thermal resistance ³⁾	$R_{\theta A}$	60.0	$^{\circ}\text{C}/\text{W}$
	R_{JL}	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)
KSP5U300L	T/R	$\phi 330$	5000	338×338×40	2	365×365×360	7

RATINGS AND CHARACTERISTIC OF KSP5U300L

FIG.1-FORWARD CURRENT DERATING CURVE

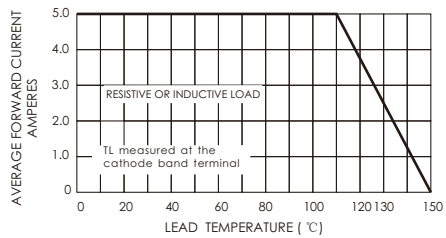


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

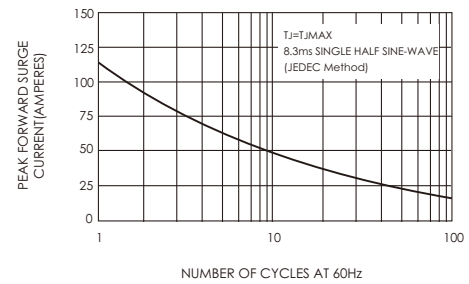


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

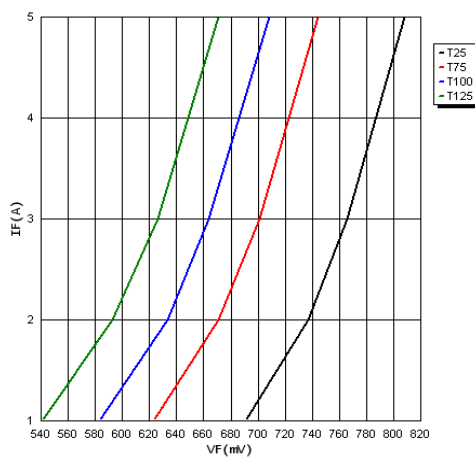


FIG.4-TYPICAL REVERSE CHARACTERISTICS

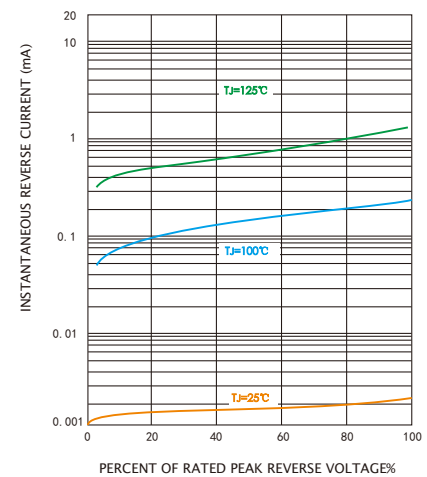


FIG.5-TYPICAL JUNCTION CAPACITANCE

