

SUPER 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



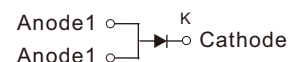
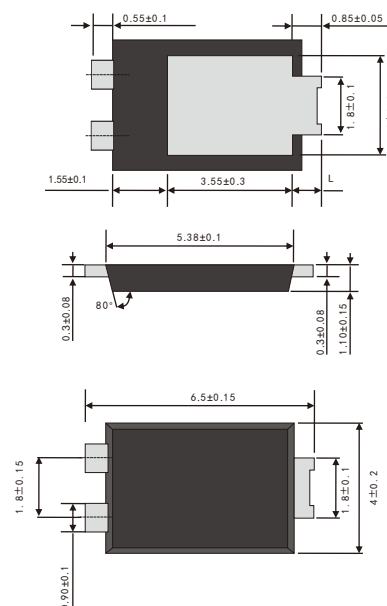
Mechanical Data:

- 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)

Typical Applications:

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

TO-277



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Marking Code	JF SP20U60SL / SP20U60SL	-	-
Maximum repetitive peak reverse voltage	V_{RRM}	60	V
Maximum average forward rectified current	$I_{F(AV)}$	20.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	250	A
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{stg}	-55 to +150	°C

RATINGS AND CHARACTERISTIC OF KW20U60SL

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

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	$I_F=20.0\text{A}$	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.50	0.55	V
		$T_A=100^{\circ}\text{C}$		0.49	—	
		$T_A=125^{\circ}\text{C}$		0.48	—	
	$I_F=5.0\text{A}$	$T_A=25^{\circ}\text{C}$		0.37	—	
		$T_A=100^{\circ}\text{C}$		0.30	—	
		$T_A=125^{\circ}\text{C}$		0.28	—	
Reverse current	$V_R=60\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	80	150	μA
		$T_A=100^{\circ}\text{C}$		8	15	mA
		$T_A=125^{\circ}\text{C}$		32	60	
Typical junction capacitance	4V, 1MHz		C_J	2000		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⁾	$R_{\theta JA}$	60.0	$^{\circ}\text{C/W}$
	R_{JL}	3.0	

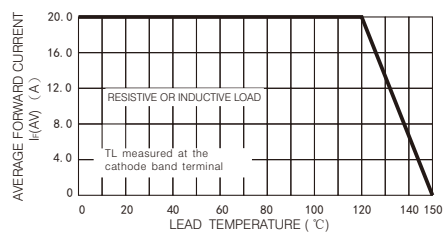
3 Units mounted on recommended PCB 1 oz. Pad layout

AVAILABALE PACK INFORMATION

Product code	Pack	Box Size L*W*H (mm)	Quantity (pcs/box)	Carton Size L*W*H (mm)	Quantity (box/carton)
KW20U60SL	T/B	340*340*50	10K	365*350*350	6

RATINGS AND CHARACTERISTIC OF KW20U60SL

FIG.1-FORWARD CURRENT DERATING CURVE



注：曲线拐点温度值由公式 $T_{JMAX} - V_F @ (I_F(AV), 25^\circ C) \times I_F(AV) \times R_{\theta JL}$ 计算得出，设计时曲线仅供参考

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

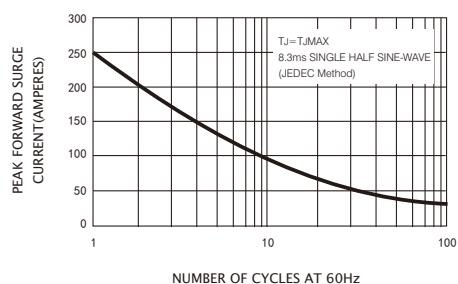


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

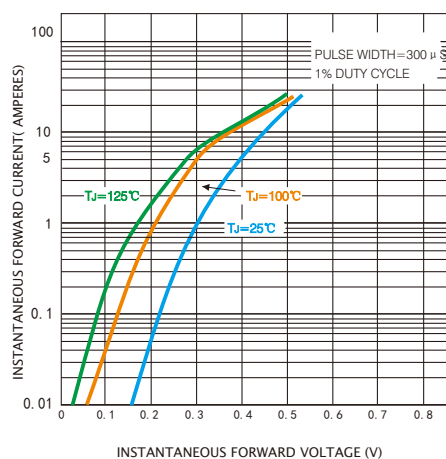


FIG.4-TYPICAL REVERSE CHARACTERISTICS

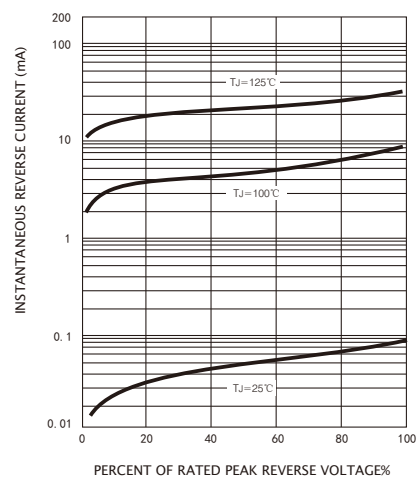


FIG.5-TYPICAL JUNCTION CAPACITANCE

