

60V Trench MOS Barrier Schottky Low VF 0.46V@10A, 25 °C

Features

- Trench MOS schottky technology
- Low stored charge Majority Carrier Conduction
- Ultra low forward voltage drop
- Low leakage current
- Low power loss and high efficiency
- High surge capacity
- ESD rating:>20K volts

Typical Application

Schottky rectifier design for high frequency switched mode power supplies, such as adaptators and on board DC/DC converters.

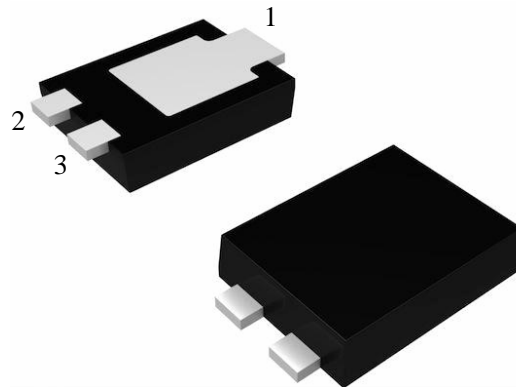
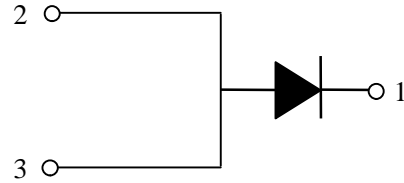
Mechanical Data

Case: JEDEC TO-277 , molded plastic

Terminals: Plated leads, solderable per
MIL-STD-750, Method 2026

Mounting Position: Any

10 Amperes, 60 Volts



TO-277

Device Summary

Symbol	Value
$I_F(AV)$	10A
V_{RRM}	60V
$V_F(Typical)$	0.46V
$T_j(max)$	150 °C

Note: Pins 2 & 3 must be electrically connected at the printed circuit board.

Major Rating and Characteristics				
Symbol	Parameter		Values	Units
V_{RRM}	Repetitive peak reverse voltage		60	V
T_J	Storage temperature range		-55 to 150	$^{\circ}\text{C}$
I_{FSM}	Surge non repetitive forward current	10 ms sine or 6 ms rect. pulse	300	A
$I_{F(AV)}$	Maximum average forward current 50 % duty cycle, rectangular waveform		$T_c=35^{\circ}\text{C}$ 10	

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)						
Parameter	Test condition		Symbol	TYP	MAX	UNITS
Forward Voltage drop	$I_F=5\text{A}$	$T_A=25^{\circ}\text{C}$	$V_F^{(1)}$	0.41	-	V
	$I_F=7.5\text{A}$			0.43		
	$I_F=10\text{A}$			0.46	0.51	
	$I_F=5\text{A}$	$T_A=125^{\circ}\text{C}$		0.31	-	
	$I_F=7.5\text{A}$			0.35		
	$I_F=10\text{A}$			0.38	0.45	
Reverse leakage current	$V_R=60\text{V}$	$T_A=25^{\circ}\text{C}$	$I_R^{(2)}$	-	50	μA
		$T_A=125^{\circ}\text{C}$		12	50	mA
Junction capacitance	$V_R=5V_{DC}, 25^{\circ}\text{C}(1\text{MHz})$		C_j	1400		pF

Notes (1) Pulse test: 300us pulse width,2% duty cycle (2) Pulse test: 300us pulse width,2% duty cycle

Thermal Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	SK10U60AA	UNIT
Typical thermal resistance	$R_{JA}^{(1)}$	45	$^{\circ}\text{C}/\text{W}$
	$R_{JM}^{(2)}$	1.3	

Notes

- (1) Free air, mounted on recommended PCB, 2oz.pad area; thermal resistance R_{JA} -junction to ambient
 (2) Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm;
 R_{JM} -junction to mount

Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Typical Forward Voltage Characteristics

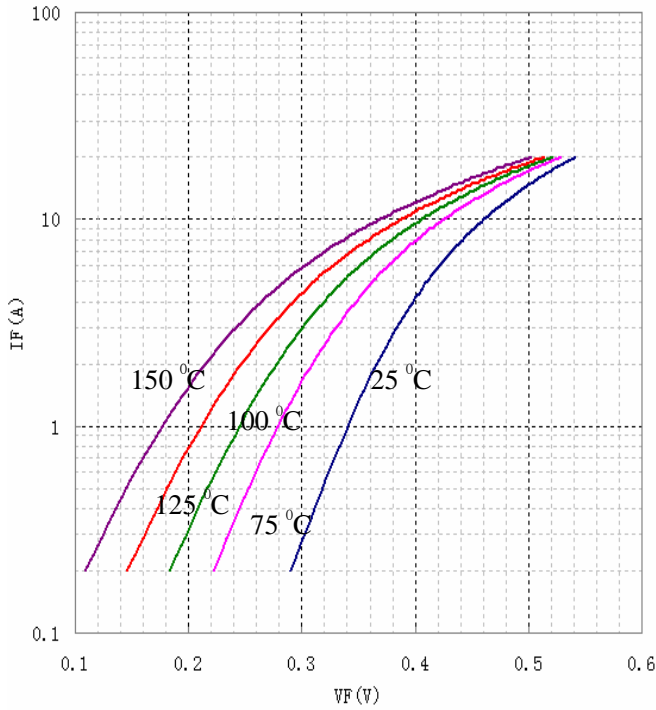


Fig.2 Typical Reverse Leakage Characteristics

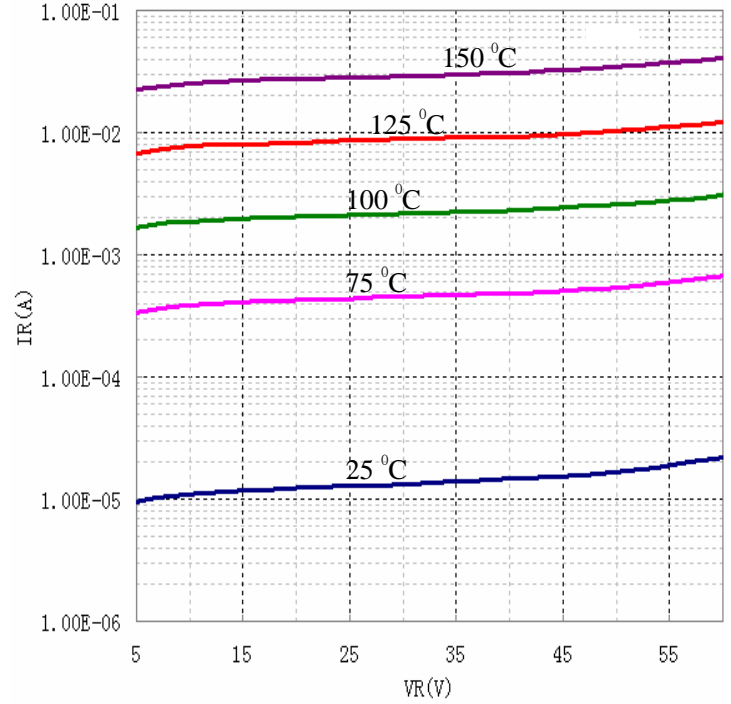
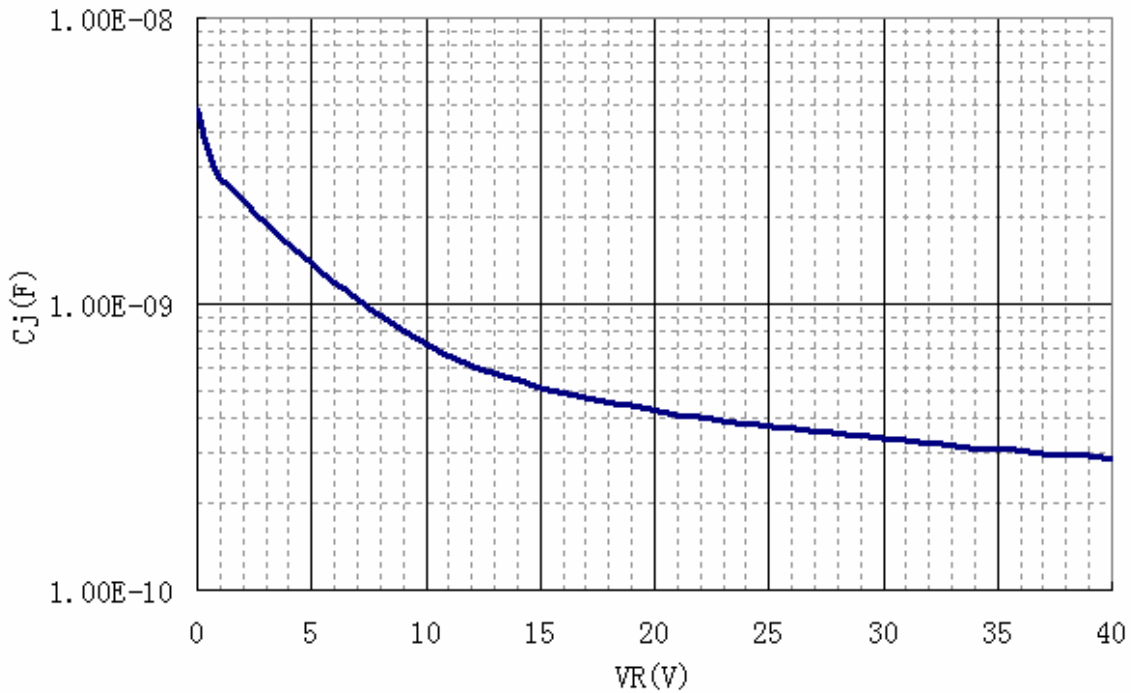


Fig.3 Junction capacitance versus reverse voltage applied (typical values)



Package Outline Dimensions in Millimeters

