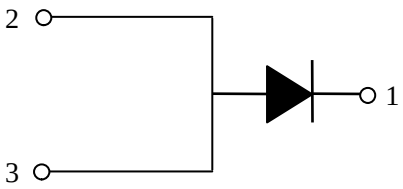
SK10U45LA

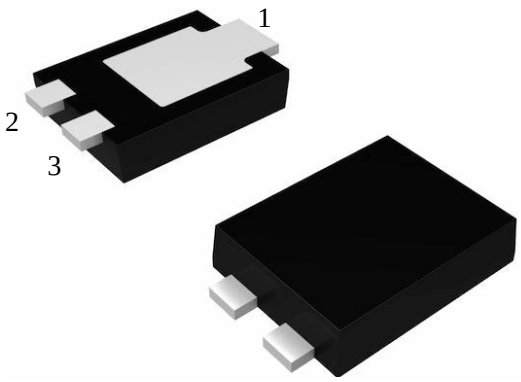
45V Trench MOS Barrier Schottky
Low VF 0.46V@10A, 25 °C

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

10 Amperes, 45 Volts





TO-277

Typical Application

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

Device Summary

Symbol	Value
I_F(AV)	10A
V_{RRM}	45V
V_F(Typical)	0.46V
T_j(max)	150 °C

Mechanical Data

Case: JEDEC TO-277, molded plastic

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

Mounting Position: Any

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			45	V
T_J	Storage temperature range			-55 to 150	^{0}C
I_{FSM}	Surge non repetitive forward current	10 ms sine or 6 ms rect. pulse		150	A
$I_{F(AV)}$	Maximum average forward current 50 % duty cycle, rectangular waveform		Tc=35^{0}C	10	

Electrical Characteristics(T_A=25 ^{0}C unless otherwise noted)

Parameter	Test condition		Symbol	TYP	MAX	UNITS
Forward Voltage drop	I_F =2A	T_A=25 ^{0}C	V_F(1)	0.35	-	V
	I_F =5A			0.42		
	I_F =10A			0.46	0.51	
	I_F =2A	T_A=125 ^{0}C		0.30	-	
	I_F =5A			0.36		
	I_F =10A			0.40	0.48	
Reverse leakage current	V_R =45V	T_A=25 ^{0}C	I_R(2)	20	100	uA
		T_A=125 ^{0}C		13	70	mA
Junction capacitance	V_R=5V_{DC}, 25 ^{0}C(1MHz)		C_j	-		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 ^{0}C unless otherwise noted)

Parameter	Symbol	SK10U45LA	UNIT
Typical thermal resistance	R_{JA}(1)	75	^{0}C /W
	R_{JM}(2)	34	

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; RJM-junction to mount

Characteristics Curves(T_A=25 ^{0}C unless otherwise noted)

Fig.1 Typical Forward Voltage Characteristics

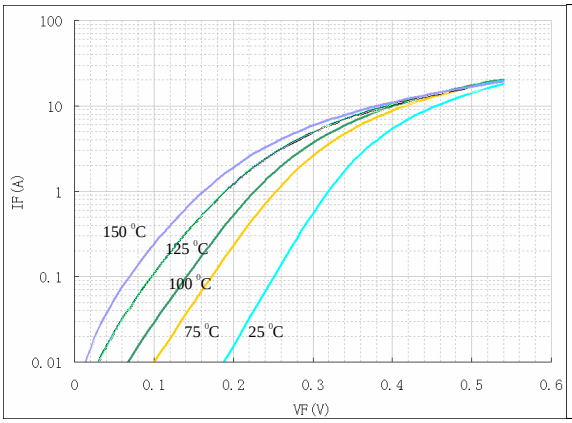
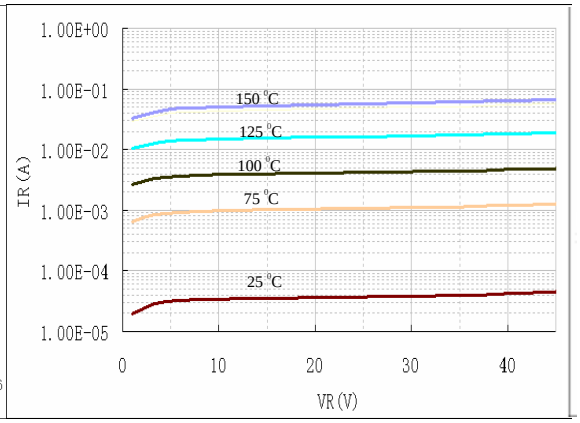
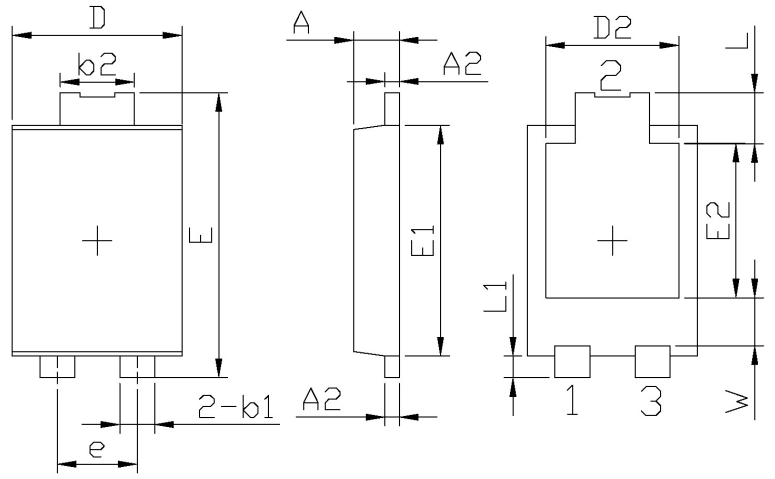


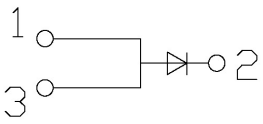
Fig.2 Typical Reverse Leakage Characteristics



Package Outline Dimensions in Millimeters



Pin:



UNIT:MM		
Dim	Min	Max
A	1.05	1.25
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054Typ	
E	6.40	6.60
e	1.84Typ	
E1	5.30	5.50
E2	3.549Typ	
L	0.75	0.95
L1	0.45	0.65
W	1.10	1.41

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