

40A, 100V Low Forward Voltage Schottky Rectifier

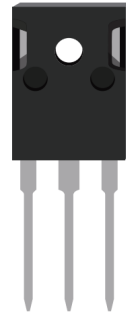
FEATURES

- Trench MOS schottky barrier rectifier
- Low forward voltage drop
- High efficiency, low power loss
- High temperature soldering guaranteed: 270°C/10 seconds
- RoHS compliant

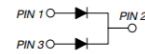
MECHANICAL DATA

- Case: TO-247
- Case material: molding compound meets UL 94V-0 flammability rating
- Polarity: as marked on case body

TO-247



1 2 3



RoHS
COMPLIANT

HALOGEN
FREE
AVAILABLE

TYPICAL APPLICATION

General purpose use in AC to DC bridge full wave rectification for SMPS, lighting, adapter, charger, home appliance, office equipment and telecommunication.

MAXIMUM RATINGS

$T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Average Forward Rectified Current	$I_{F(AV)}$	40	A
Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load)	I_{FSM}	250	A
Operating Junction Temperature Range	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

$T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Test Conditions	Symbol	Value		Unit
			Typ.	Max.	
Forward Voltage@ $I_F=20\text{A}$	$T_A=25^{\circ}\text{C}$	V_F	0.71	0.74	V
	$T_A=125^{\circ}\text{C}$		0.63	0.66	V
Reverse Current @ V_{RRM}	$T_A=25^{\circ}\text{C}$	I_R	20	50	μA
	$T_A=125^{\circ}\text{C}$		15	35	mA
Typical Thermal Resistance		$R_{\theta JC}$	0.9		$^{\circ}\text{C}/\text{W}$

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RATINGS AND CHARACTERISTIC CURVES

$T_A=25^\circ\text{C}$ unless otherwise noted

FIG.1: Forward Output Current Derating Curve

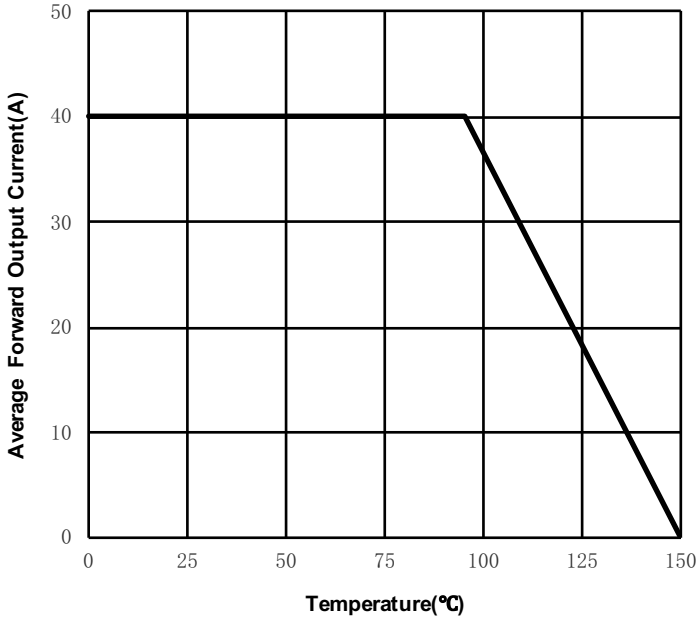


FIG.2: Maximum Non-Repetitive Peak Forward Surge Current

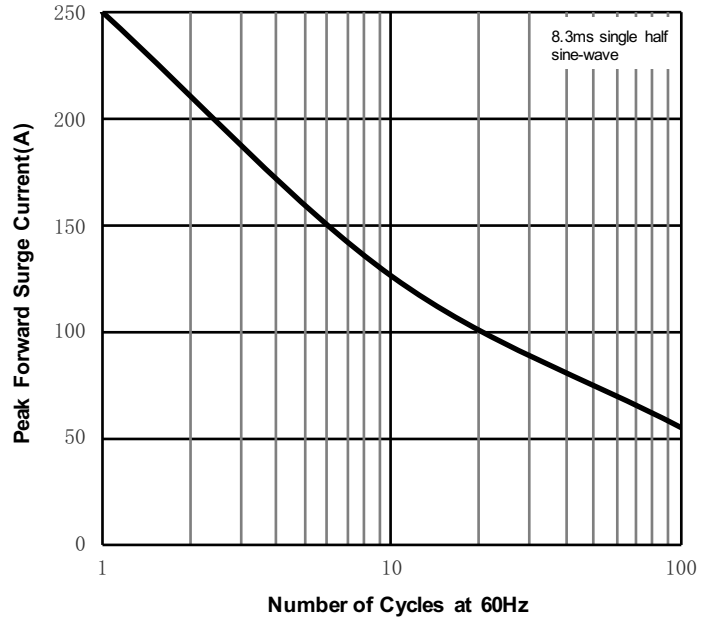


FIG.3: Typical Forward Characteristics

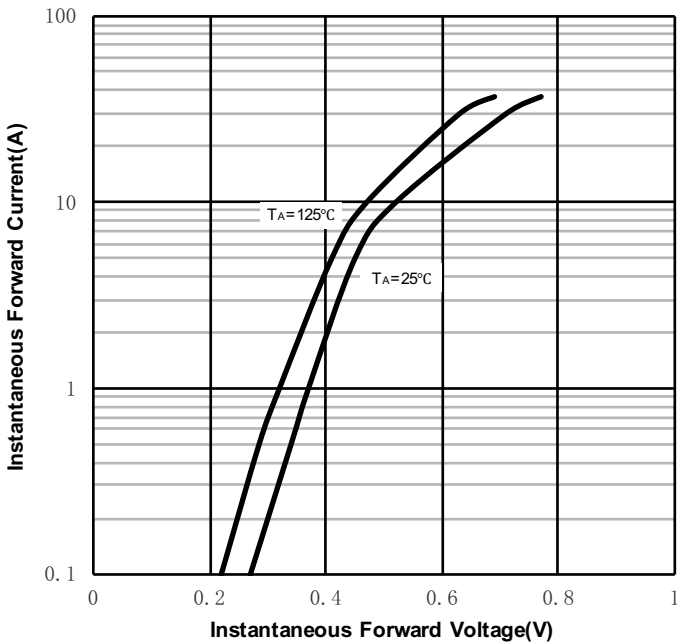
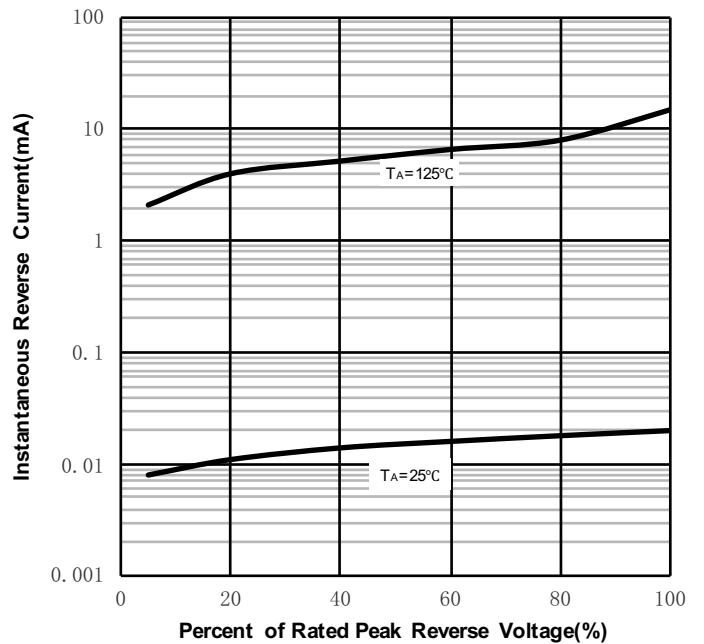
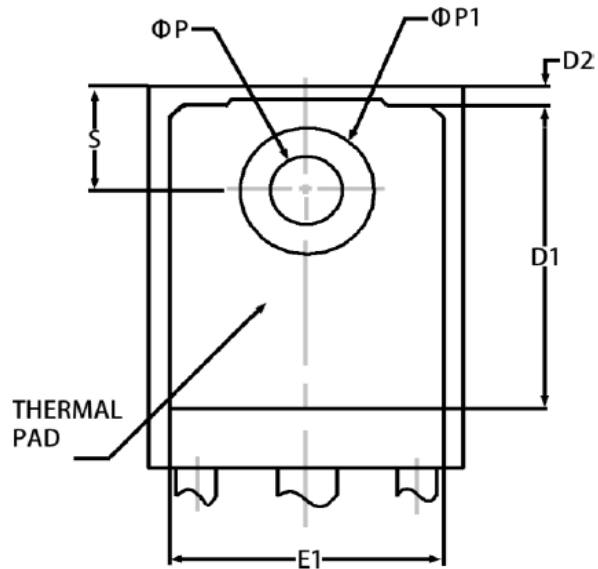
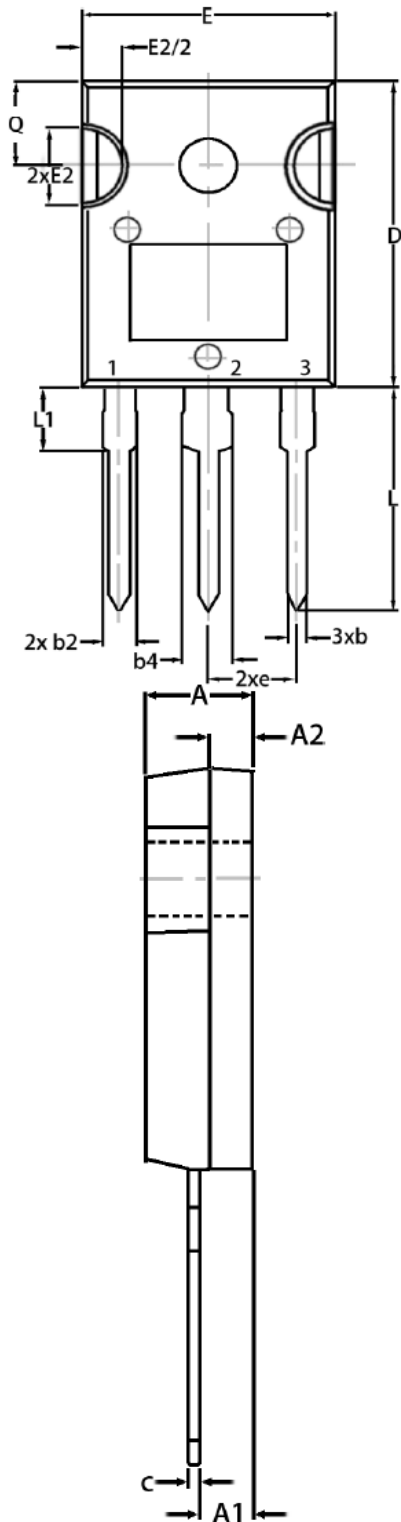


FIG.4: Typical Reverse Characteristics



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PACKAGE OUTLINE DIMENSIONS

TO-247


SYM-BOLS	DIMENSIONS			
	mm		inch	
	MIN.	MAX.	MIN.	MAX.
A	4.83	5.13	0.190	0.20
A1	2.21	2.59	0.087	0.102
A2	1.50	2.49	0.059	0.098
b	0.99	1.40	0.039	0.055
b2	1.65	2.39	0.065	0.094
b4	2.59	3.43	0.102	0.135
c	0.38	0.89	0.015	0.035
D	19.71	20.70	0.776	0.815
D1	13.08	-	0.515	-
D2	0.51	1.35	0.020	0.053
E	15.29	15.87	0.602	0.625
E1	13.46	-	0.530	-
E2	4.52	5.49	0.178	0.216
e	5.46BSC		0.215BSC	
L	14.2	16.1	0.559	0.634
L1	3.71	4.29	0.146	0.169
ΦP	3.56	3.66	0.140	0.144
ΦP1	-	7.39	-	0.291
Q	5.31	5.69	0.209	0.224
S	5.51BSC		0.217BSC	



ST40100PT

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PACKING INFORMATION

Package	Tube(PCS)	Inner Box(PCS)	Carton(PCS)
TO-247	30	360	1,800