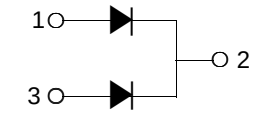
30A Schottky Barrier Rectifier

Symbol



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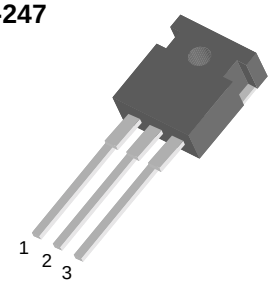

Features

- ◆ Plastic material meets UL94V-0
- ◆ Metal silicon junction
- ◆ Very low forward voltage drop
- ◆ High current / High surge capability
- ◆ Guarding for over voltage protection
- ◆ Lead solderable per MIL-STD202,method 208 guaranteed
- ◆ Lead temperature for soldering purpose 250°C Max for 10 second
- ◆ Weight : 5.6 gram (approximately)

General Description

The W30M40CT schottky Rectifier has been designed for applcations requiring low forward voltage drop and switching power supply, dc-dc converter, free-wheeling diode, battery charging, polarity protection application.

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	40	V
V_R	Maximum DC Reverse Voltage	40	V
$I_{F(AV)}$	Average Forward Current @ T_C = 100°C Per Diode Total Device	15 30	A A
I_{FSM}	Non-Repetitive Peak Surge Current (Surge applied at rated load conditions half sinewave,single phase, 60Hz)	275	A
Eas	Non-Repetitive Avalanche Energy @ T_C=25°C , Vdd = 15V , L=18uH	17.5	mJ
T_J	Maximum Junction Temperature	- 65 ~ 125	°C
T_{STG}	Storage Temperature Range	- 65 ~ 150	°C

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction-to-Case (per diode)	1.5	°C/W

Electrical Characteristics

Symbol	Parameter	Min	Typ	Max	Units
I_R	Reverse Leakage Current $V_R = V_{RRM}$ T_C = 25 °C T_C = 125 °C	-	-	1 50	mA
V_F	Forward Voltage Drop I_F = 15 A T_C = 25 °C I_F = 15 A T_C = 125 °C I_F = 30 A T_C = 25 °C I_F = 30 A T_C = 125 °C	-	-	0.50 0.45 0.60 0.55	V
C_T	Typical Junction Capacitance @ f_T=1MHZ , V_R=4V , Tj =25℃		750		$_P$F

Fig 1. VF-IF Characteristic

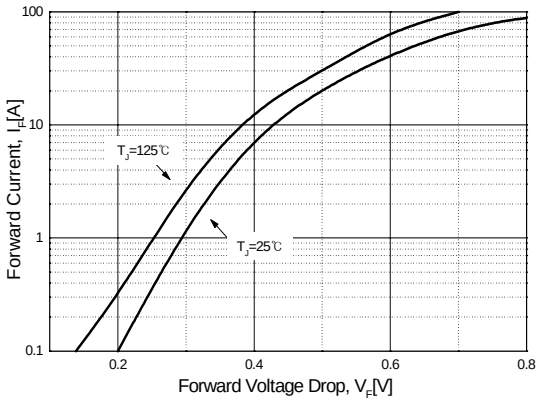

Fig 2. VR-IR Characteristic

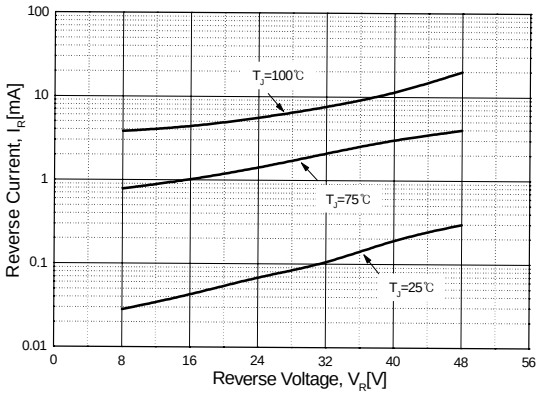

Fig 3. Typical Junctiion Capacitance

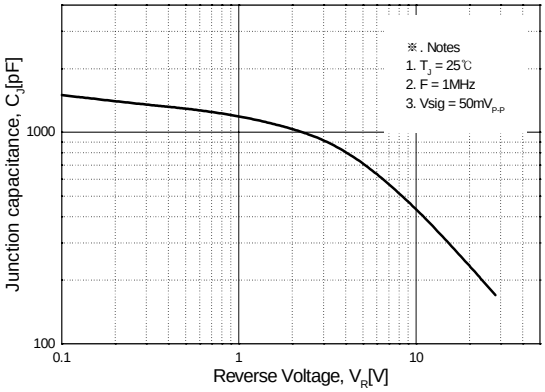

Fig 4. Forward Current derating Curve

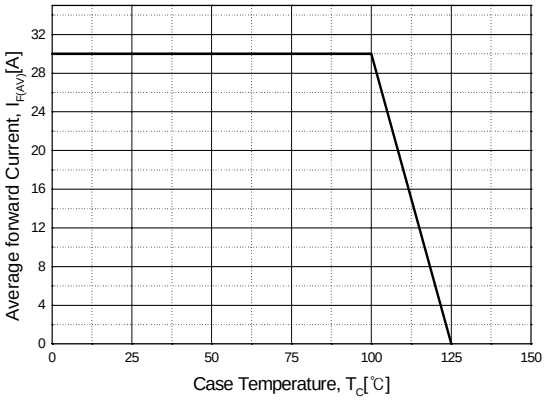

Fig 5. Maximum non-Repetitive forward Surge current per diode