

16A Schottky Barrier Rectifier

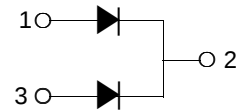
Features

- ◆ 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 : 2.2 gram (approximately)

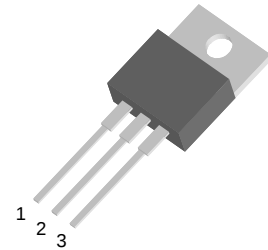
General Description

The P16M40CT schottky Rectifier has been designed for applications requiring low forward voltage drop and switching power supply, dc-dc converter, free-wheeling diode, battery charging, polarity protection application.

Symbol



TO-220



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 @ $T_C = 95^\circ\text{C}$ Per Diode Total Device	8 16	A A
I_{FSM}	Non-Repetitive Peak Surge Current (Surge applied at rated load conditions half sinewave, single phase, 60Hz)	250	A
E_{as}	Non-Repetitive Avalanche Energy @ $T_C = 25^\circ\text{C}$, $V_{dd} = 15\text{V}$, $L = 18\mu\text{H}$	6.0	mJ
T_J	Maximum Junction Temperature	- 65 ~ 125	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	- 65 ~ 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction-to-Case (per diode)	2.5	$^\circ\text{C/W}$

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Electrical Characteristics

Symbol	Parameter	Min	Typ	Max	Units
I_R	Reverse Leakage Current $V_R = V_{RRM}$ $T_C = 25\text{ }^{\circ}\text{C}$ $T_C = 125\text{ }^{\circ}\text{C}$	-	-	1 50	mA
V_F	Forward Voltage Drop $I_F = 8\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$ $I_F = 8\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$ $I_F = 16\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$ $I_F = 16\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$	-	-	0.55 0.50 0.70 0.62	V
C_T	Typical Junction Capacitance @ $f_T=1\text{MHz}$, $V_R=4\text{V}$, $T_J=25\text{ }^{\circ}\text{C}$			700	pF

P16M40CT

Fig 1. VF-IF Characteristic

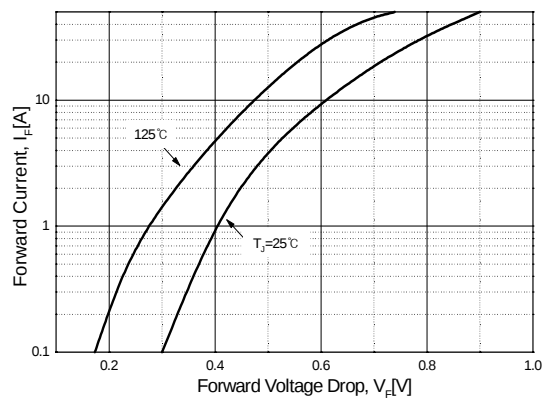


Fig 2. VR-IR Characteristic

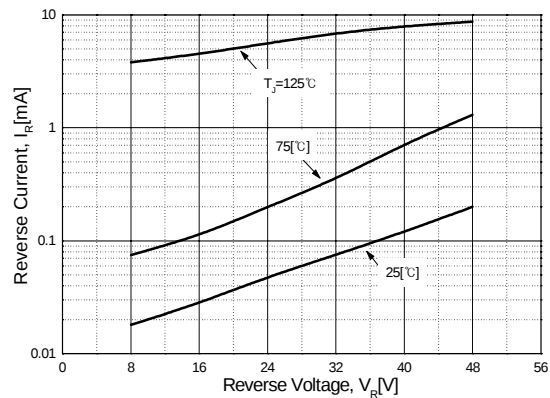


Fig 3. Typical junction capacitance

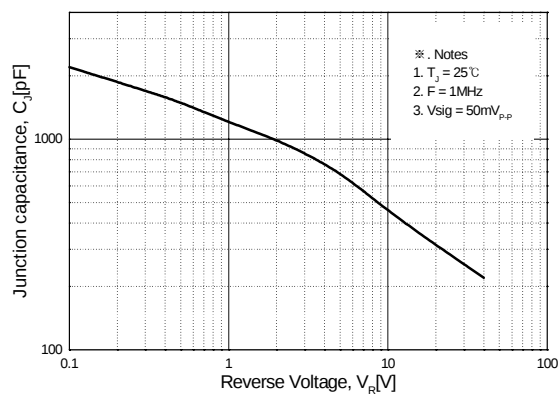


Fig 4. Forward current derating curve

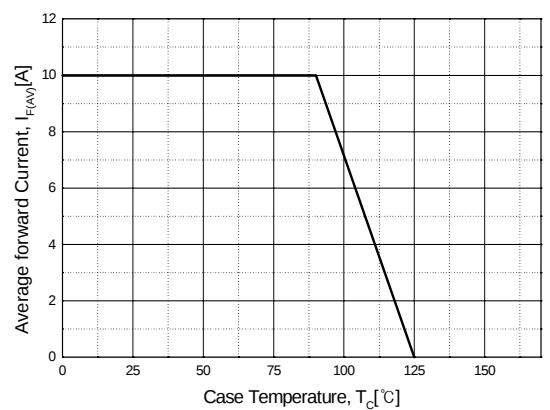


Fig 5. Maximum non-repetitive forward surge current per diode

