Pb Free Plating Product

T15U50S

15 Ampere,50 Volt Trench Process Low Vf Schottky Barrier Rectifier

Features

- ThinkiSemi matured trench barrier schottky
- Low forward voltage drop
- High current capability
- Low reverse leakage current
- High surge current capability

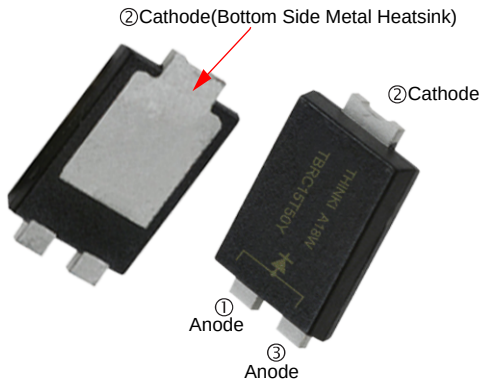
Application

- Inverter/UPS/Converter/BMS
- Photovoltaic Solar Cell Protection/SMPS
- Battery Reverse Protection Circuit/Charger

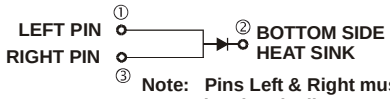
Mechanical Data

- Case: Heatsink SMD TO-277B/SMPC-SQ outline
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Solderable per MIL-STD-202 method 208
- Polarity: As marked on diode body
- Mounting position: Any
- Weight: 0.098 gram approximately

TO-277B/SMPC-SQ Unit : inch (mm)



Internal Configuration



Note: Pins Left & Right must be electrically connected at the printed circuit board.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	T15U50S	UNIT
Marking code on the device		T15U50S	
Repetitive peak reverse voltage	V_{RRM}	50	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	V
Forward current	I_F	15	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	280	A
Junction temperature	T_J	-55 to +150	°C
Storage temperature	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	10	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 15A, T_J = 25°C	V_F	0.48	0.56	V
	I_F = 15A, T_J = 125°C		0.44	0.50	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	2000	μA
	T_J = 125°C		-	140	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

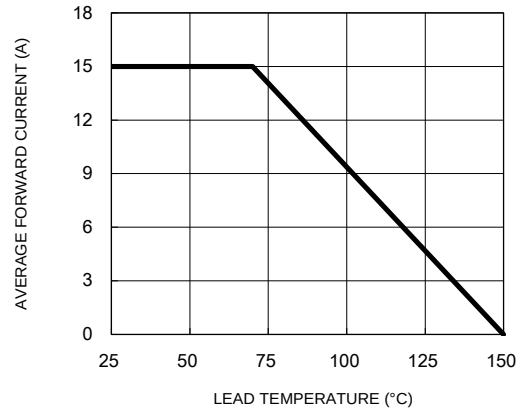


Fig.2 Typical Junction Capacitance

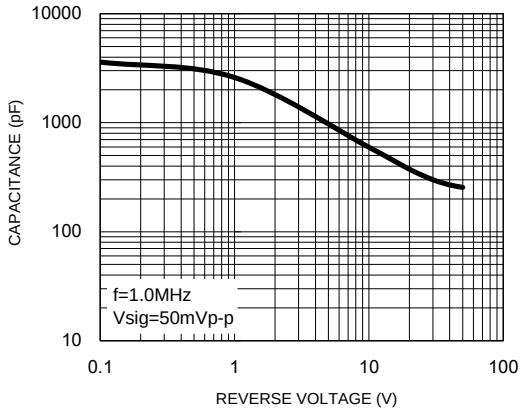


Fig.3 Typical Reverse Characteristics

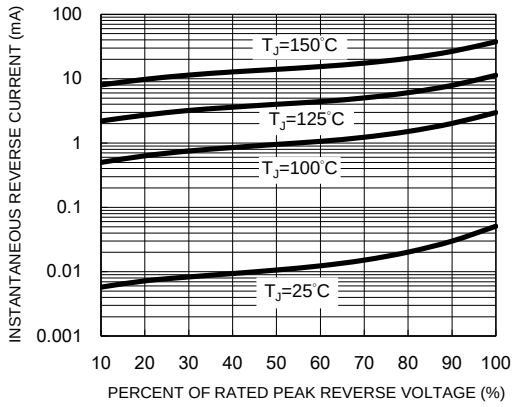


Fig.4 Typical Forward Characteristics

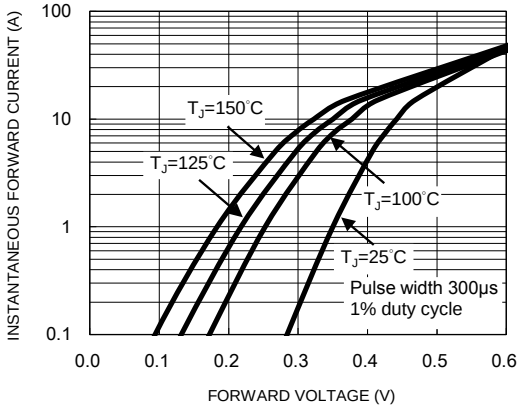
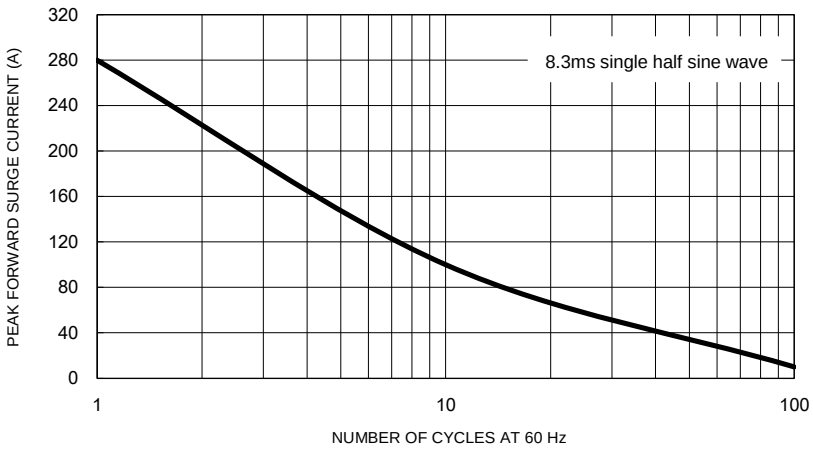
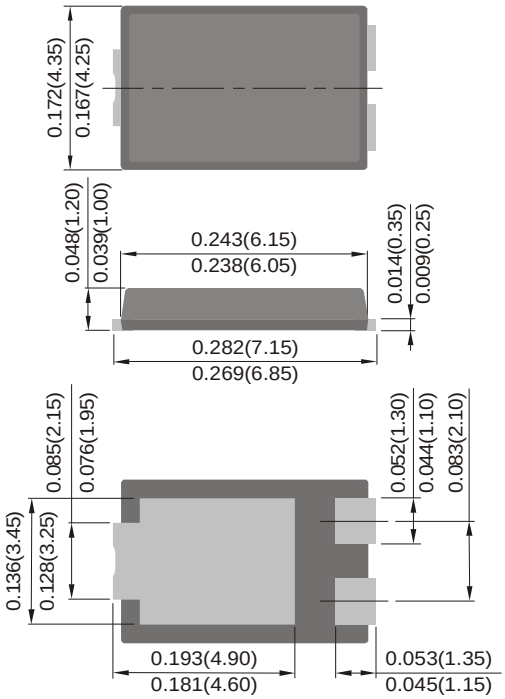


Fig.5 Maximum Non-Repetitive Forward Surge Current



TO-277B/SMPC-SQ PACKAGE OUTLINE DIMENSIONS



TO-277B/SMPC-SQ SUGGESTED PAD LAYOUT