

Pb Free Plating Product

V1010



THINKI 10 Ampere, 100 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

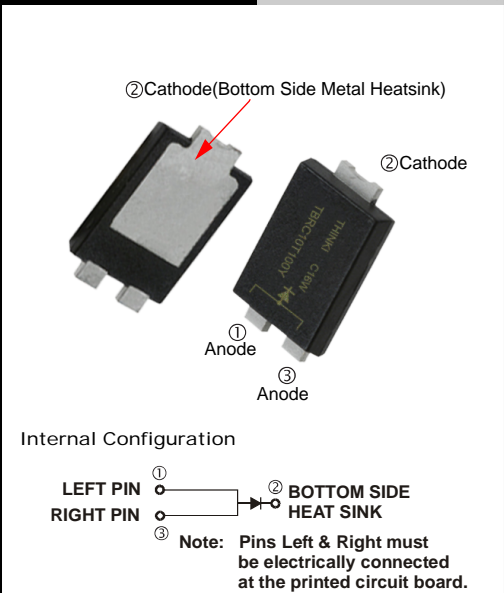
- * Inverter/Amplifier
- * Photovoltaic Solar Cell Protection/SMPS
- * Battery Reverse Protection Circuit/Charger

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)

**ABSOLUTE MAXIMUM RATINGS** ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	V1010	UNIT
Marking code on the device		V1010	
Repetitive peak reverse voltage	V_{RRM}	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	70	V
Forward current	I_F	10	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	160	A
Junction temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	11	$^\circ\text{C/W}$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	V_F	0.51	-	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		0.60	0.68	V
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$		0.42	-	V
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$		0.52	0.60	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	150	μA
	$T_J = 125^\circ\text{C}$		-	30	mA

Notes:

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

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

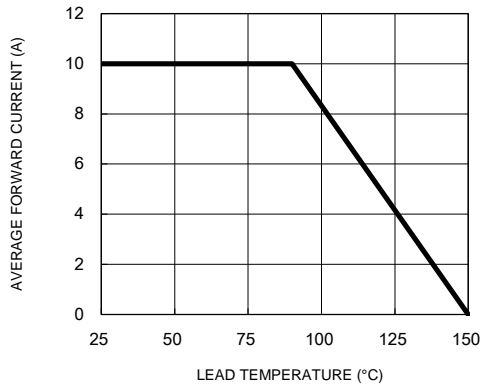


Fig.2 Typical Junction Capacitance

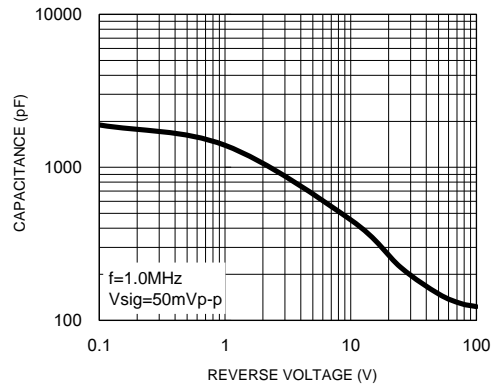


Fig.3 Typical Reverse Characteristics

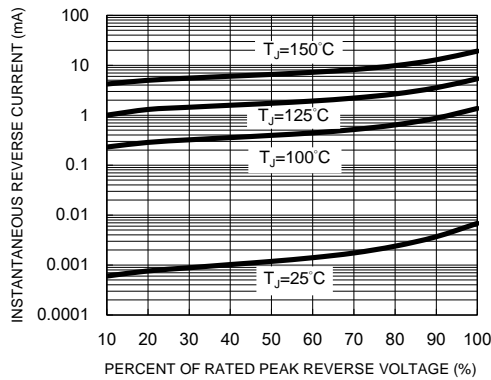


Fig.4 Typical Forward Characteristics

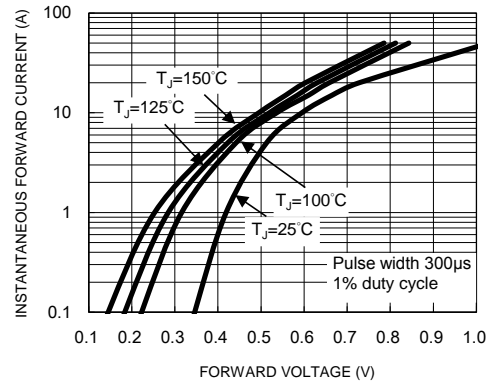
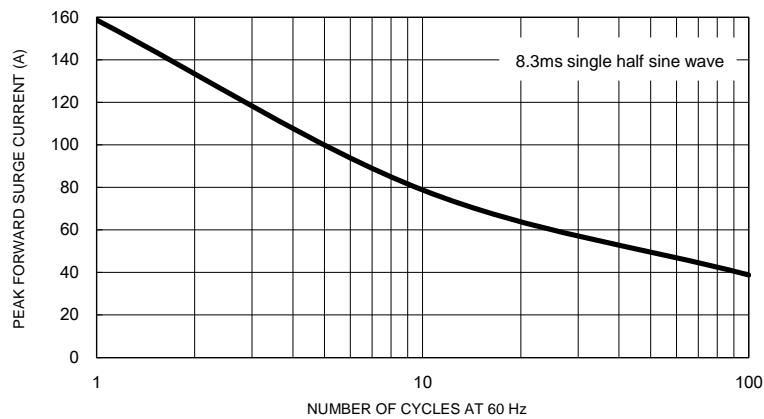
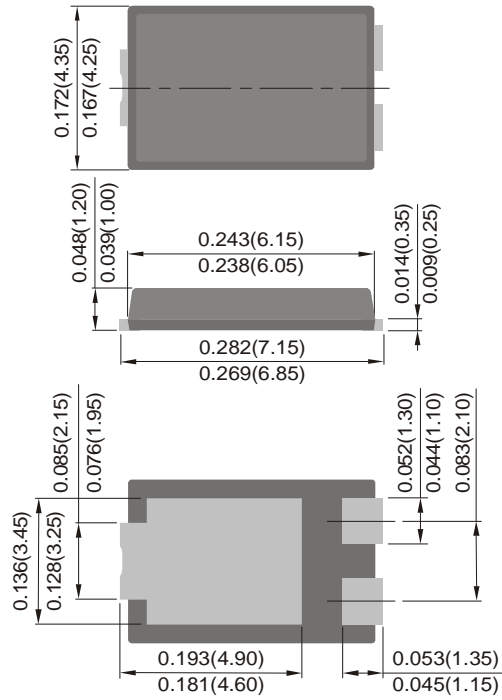


Fig.5 Maximum Non-Repetitive Forward Surge Current



TO-277B/SMPC-SQ PACKAGE OUTLINE DIMENSIONS



TO-277B/SMPC-SQ SUGGESTED PAD LAYOUT

