

Pb Free Plating Product

TBRF20T60CTG



20Ampere,60Volt Insulated Common Cathode Trench Schottky Barrier Rectifier Diodes

Features

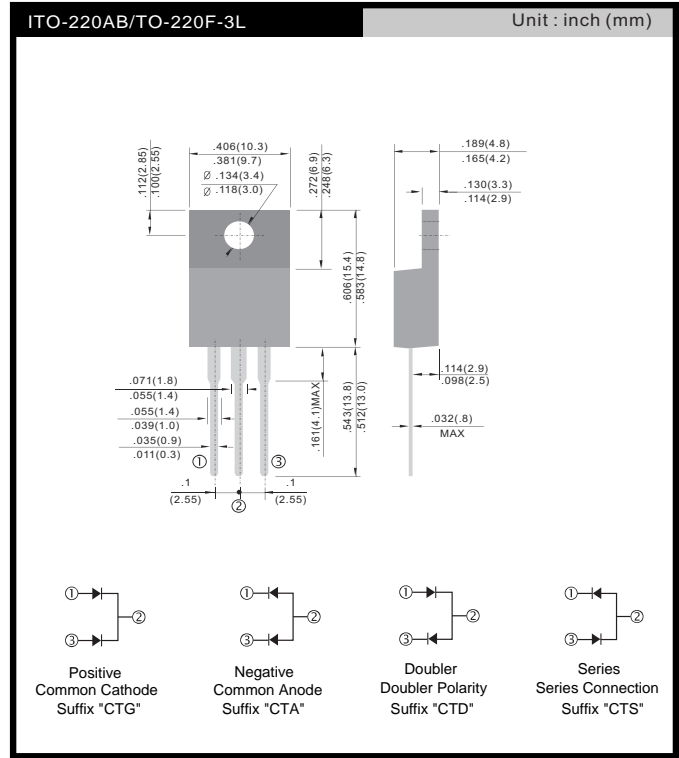
- ★ ThinkiSemi matured TRENCH schottky
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

Application

- ★ Automotive Inverters and Solar Inverters
- ★ Plating Power Supply, SMPS, EPS and UPS
- ★ Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- ★ Case: Isolated fully plastic ITO-220AB/TO-220F-3L
- ★ 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: 2.0 gram approximately



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

PARAMETER	SYMBOL	TBRF20T60CTG	UNIT
Marking code on the device	THINKI	TBRF20T60CTG	
Repetitive peak reverse voltage	V _{RRM}	60	V
Reverse voltage, total rms value	V _{R(RMS)}	42	V
Forward current	per device	20	A
	per diode	10	A
Surge peak forward current single half sine-wave superimposed on rated load per diode	t = 8.3ms	200	A
	t = 1.0ms	600	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 per diode	$R_{\theta JL}$	3.9	$^{\circ}C/W$
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	14.3	$^{\circ}C/W$
Junction-to-case thermal resistance per diode	$R_{\theta JC}$	3.4	$^{\circ}C/W$

Thermal Performance Note: Mounted on Heat sink with 2" x 3" x 0.25" Al-Plate.

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 5A, T_J = 25^{\circ}C$	V_F	0.47	-	V
	$I_F = 10A, T_J = 25^{\circ}C$		0.56	0.65	V
	$I_F = 5A, T_J = 125^{\circ}C$		0.39	-	V
	$I_F = 10A, T_J = 125^{\circ}C$		0.52	0.62	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^{\circ}C$	I_R	-	30	μA
	$T_J = 125^{\circ}C$		-	29	mA
Junction capacitance per diode	1MHz, $V_R = 4.0V$	C_J	754	-	pF

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

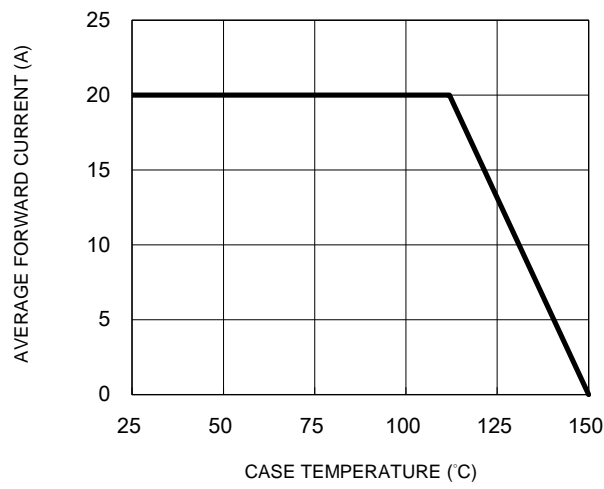


Fig.2 Typical Junction Capacitance

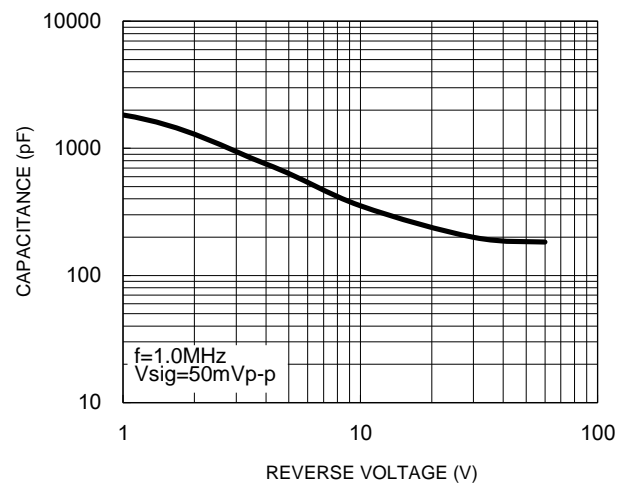


Fig.3 Typical Reverse Characteristics

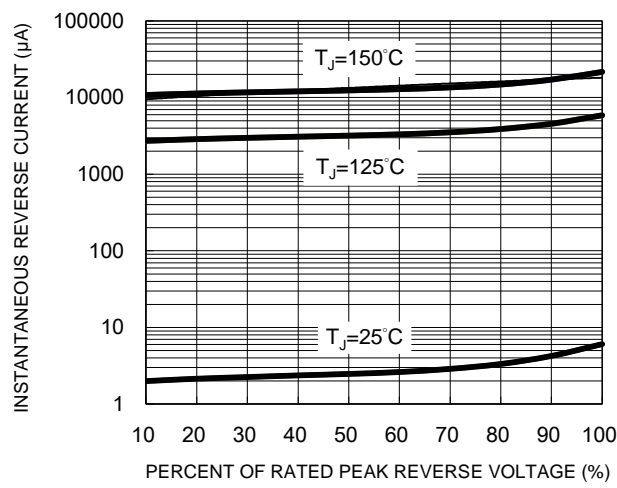


Fig.4 Typical Forward Characteristics

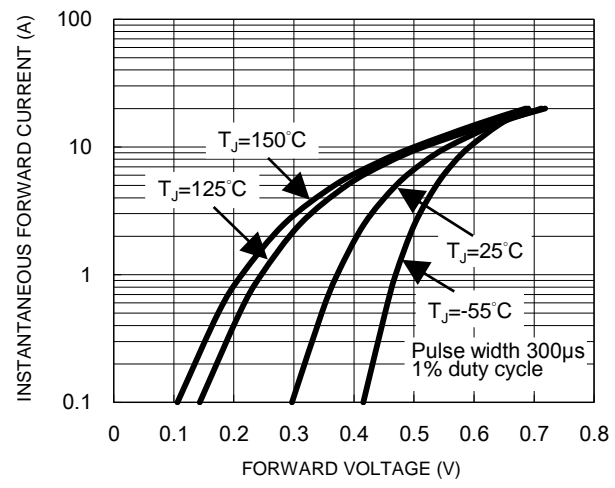


Fig.5 Typical Transient Thermal Impedance

