

20A, 120V Trench Schottky Rectifier

FEATURES

- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- RoHS Compliant
- Halogen-free

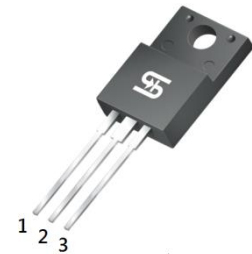
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

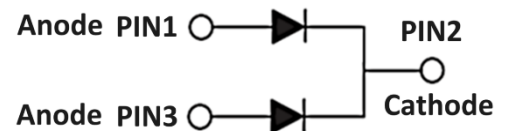
MECHANICAL DATA

- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 N·m maximum
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.73g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	20	A
V_{RRM}	120	V
I_{FSM}	210	A
$T_J \text{ MAX}$	150	°C
Package	ITO-220AB	
Configuration	Common cathode	



ITO-220AB



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VALUE	UNIT
Marking code on the device			TSF20122C	
Repetitive peak reverse voltage		V_{RRM}	120	V
Reverse voltage, total rms value		$V_{R(RMS)}$	84	V
Forward current	per device	I_F	20	A
	per diode		10	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load		I_{FSM}	210	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 ⁽¹⁾	$R_{\theta JL}$	2.5	°C/W
Junction-to-ambient thermal resistance per diode ⁽¹⁾	$R_{\theta JA}$	8.8	°C/W
Junction-to-case thermal resistance per diode ⁽²⁾	$R_{\theta JC}$	1.8	°C/W

Thermal Performance Notes:

- Units mounted on 4" x 6" x 0.25" Al-plate
- Mounted on infinite heatsink

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	V_F	0.74	-	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		0.85	0.90	V
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$		0.59	-	V
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$		0.67	0.71	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	50	μA
	$T_J = 125^\circ\text{C}$		-	10	mA

Notes:

- Pulse test with $PW = 0.3\text{ms}$
- Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
TSF20122C	ITO-220AB	50 / Tube

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

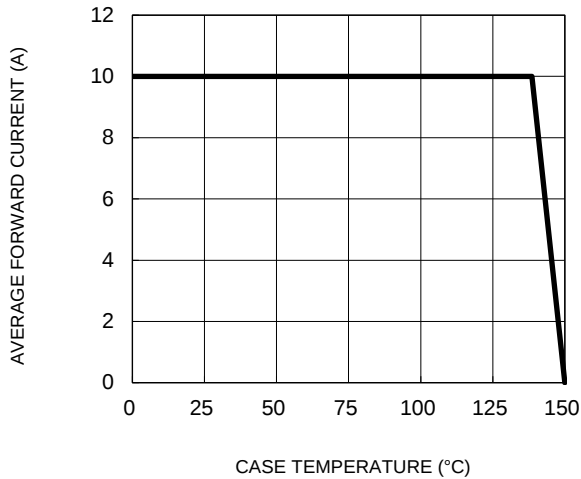


Fig.2 Typical Junction Capacitance

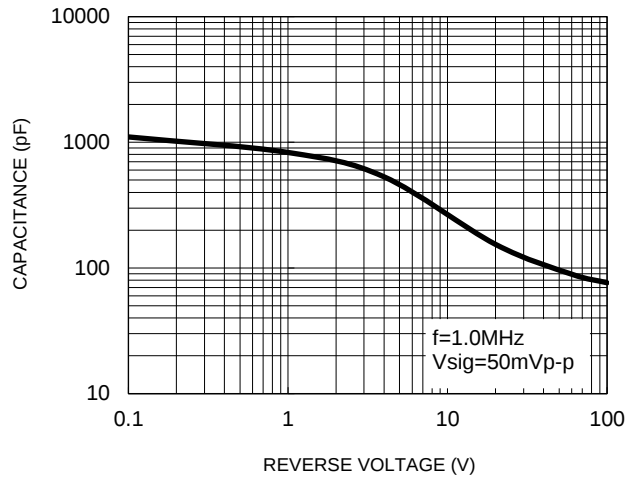


Fig.3 Typical Reverse Characteristics

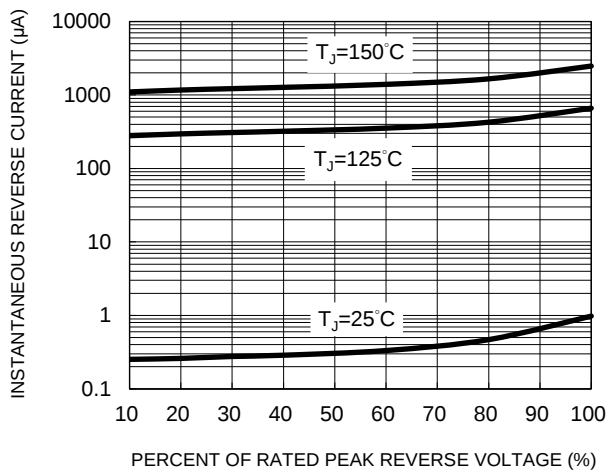


Fig.4 Typical Forward Characteristics

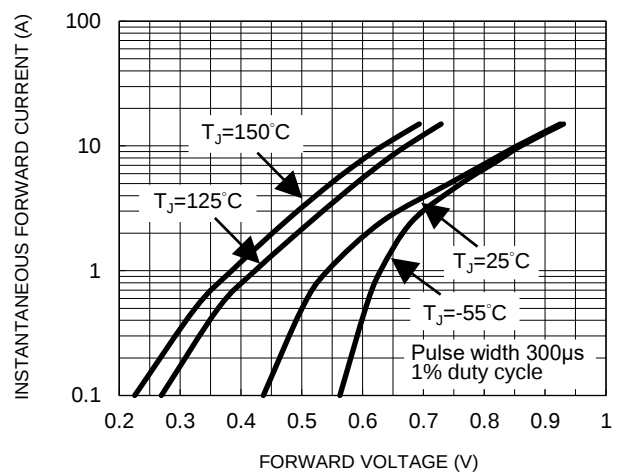
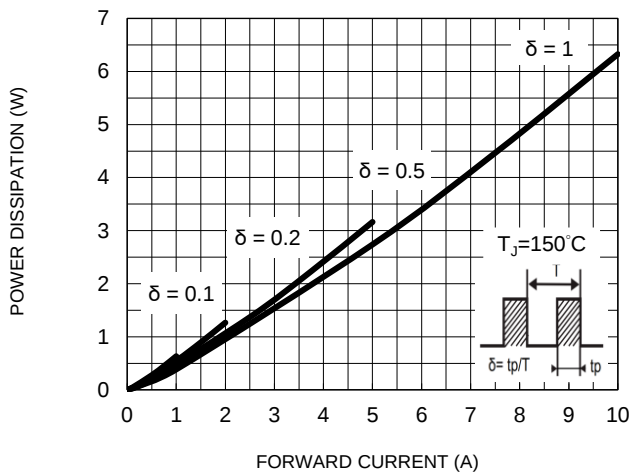


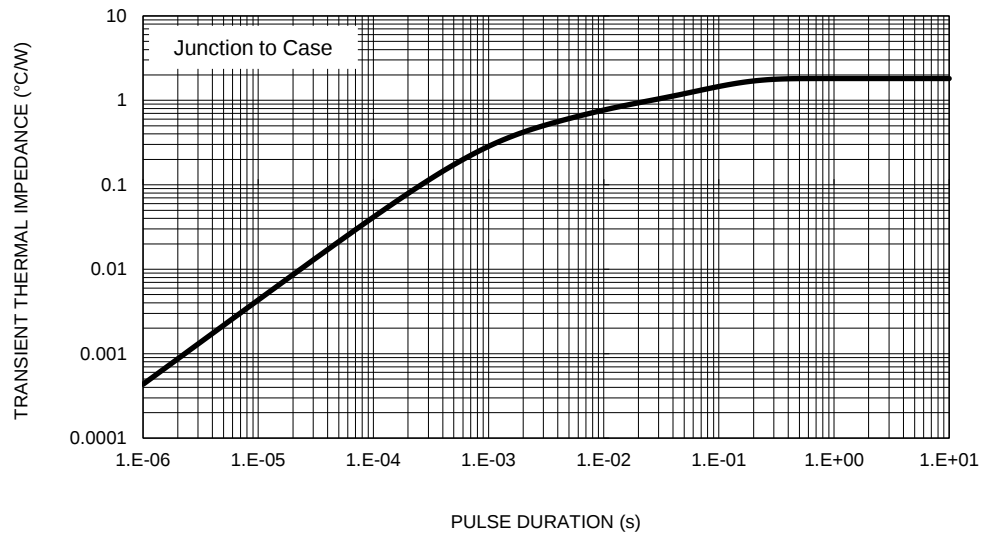
Fig.5 Typical Forward Power Dissipation vs. Forward Current



CHARACTERISTICS CURVES

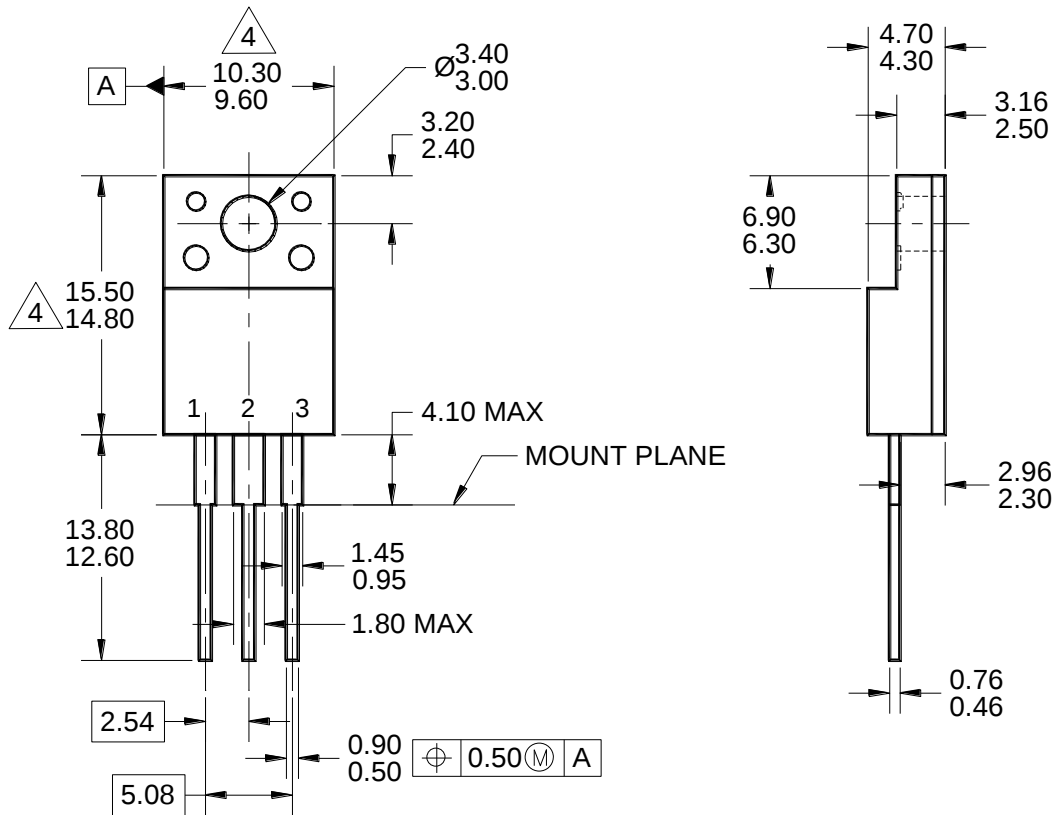
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



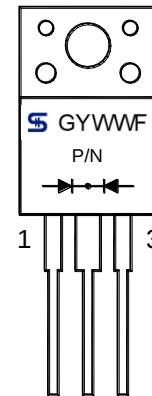
PACKAGE OUTLINE DIMENSIONS

ITO-220AB



NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: EIAJ ED-7500A-1, SC-91.
4. THIS DO NOT INCLUDE MOLD FLASH. THESE DIMENSIONS ARE MEASURED AT THE OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DWG NO. REF: HQ2SD07-ITO220AB-063 REV A.



MARKING DIAGRAM

P/N = MARKING CODE
G = GREEN COMPOUND
YWW = DATE CODE
F = FACTORY CODE

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