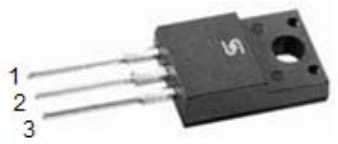
Dual High-Voltage Trench MOS Barrier Schottky Rectifier

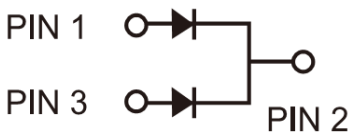
FEATURES

- Patented Trench MOS Barrier Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Lower power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



ITO-220AB

Pb-Free



RoHS COMPLIANT

MECHANICAL DATA

Case: ITO-220AB

Molding compound meets UL 94 V-0 flammability rating

Terminal: Matte tin plated leads, solderable per JESD 22-B102

Polarity: As marked

Mounting torque: 5 in-lbs. max.

Weight: 1.7 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER			SYMBOL	TSF20H120C			UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	120			V
Maximum average forward rectified current	per device		$I_{F(AV)}$	20			A
	per diode			10			
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode			I_{FSM}	140			A
Peak repetitive reverse surge current (Note 1)			I_{RRM}	0.5			A
Non-repetitive avalanche energy at L=60mH, per diode			E_{AS}	100			mJ
Voltage rate of change (Rated V_R)			dV/dt	10000			V/μs
Isolation voltage from terminal to heatsink t = 1 min			V_{AC}	1500			V
				MIN.	TYP.	MAX.	
Breakdown voltage (I_R =1.0mA)			V_{BR}	120	-	-	V
Instantaneous forward voltage per diode (Note2)	I_F = 5A	T_A = 25°C	V_F	-	0.68	-	V
	I_F = 10A			-	0.78	0.87	
	I_F = 5A	T_A = 125°C	V_F	-	0.56	-	
	I_F = 10A			-	0.63	0.69	
Instantaneous reverse current per diode at rated reverse voltage		T_A = 25°C	I_R	-	-	250	μA
		T_A = 125°C		-	5	15	mA
Typical thermal resistance (Note 3)			$R_{\theta JC}$	4.9			°C/W
Operating junction temperature range			T_J	- 55 to + 150			°C
Storage temperature range			T_{STG}	- 55 to + 150			°C

Note 1: 2.0μs Pulse width, f=1.0KHz

Note 2: Pulse test with pulse width=300μs, 1% duty cycle

Note 3: Mount on heatsink size of 4in x 6in x 0.25in Al-plate

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
TSF20H120C	C0	Suffix "G"	ITO-220AB	50 / Tube

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
TSF20H120C C0	TSF20H120C	C0		
TSF20H120C C0G	TSF20H120C	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

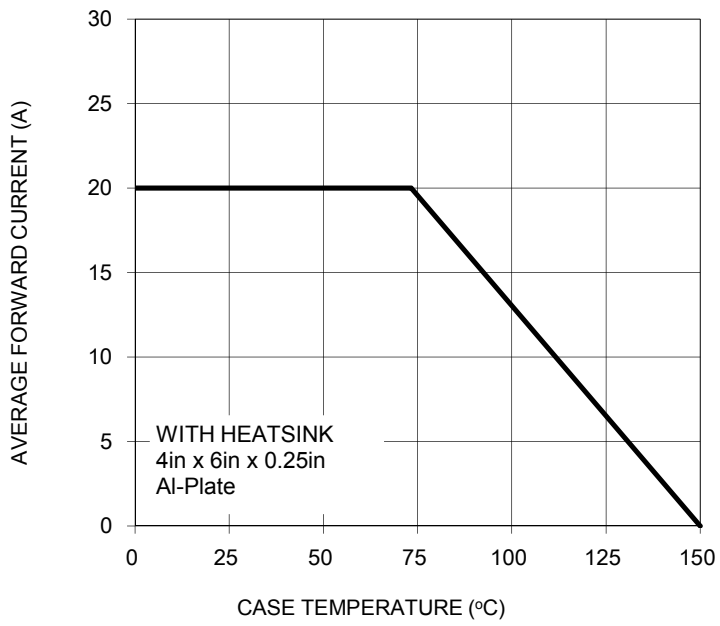


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

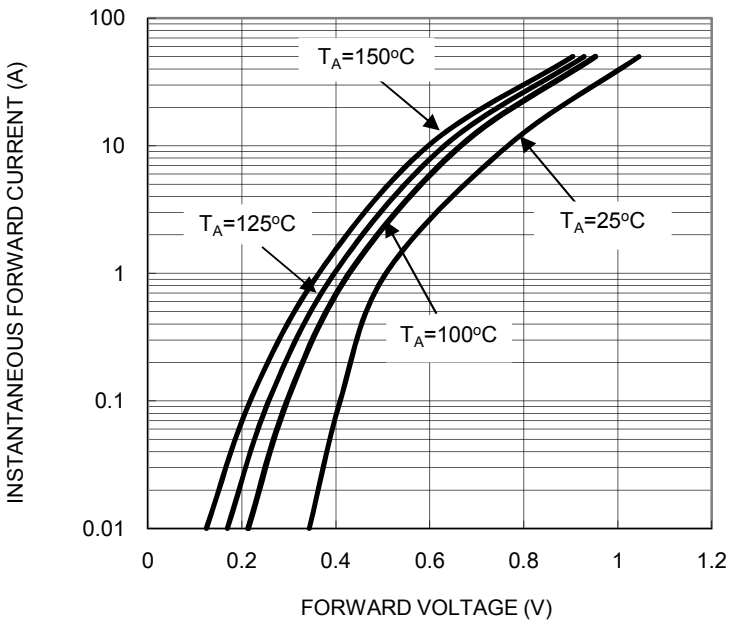


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

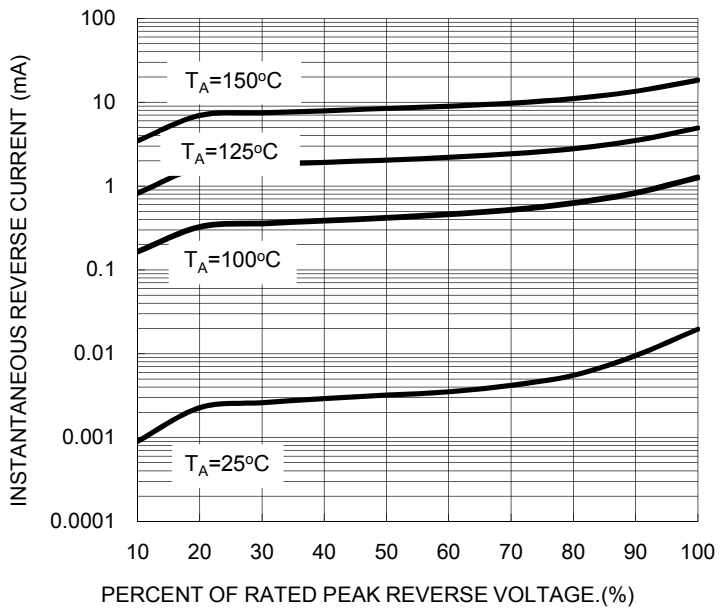
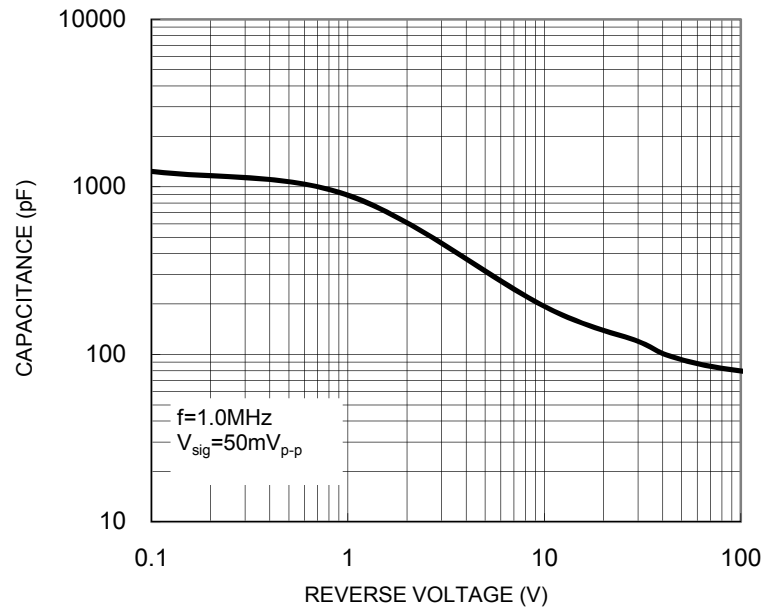
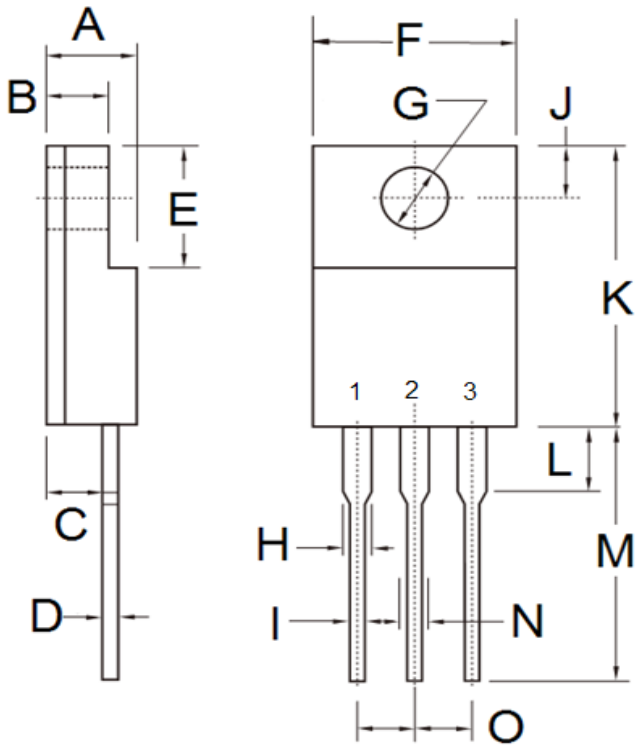


FIG. 4 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105

MARKING DIAGRAM

P/N = Specific Device Code
YWW = Date Code
F = Factory Code