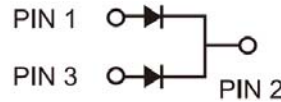


Trench MOS Barrier Schottky Rectifier

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



MECHANICAL DATA

Case: ITO-220AB

Molding compound meets UL 94 V-0 flammability rating
 Base P/N with suffix "G" on packing code - halogen-free, RoHS compliant

Terminal: Matte tin plated leads, solderable per JESD22-B102
 Meet JESD 201 class 1A whisker test

Polarity: As marked

Mounting torque: 5 in-lbs. max.

Weight: 1.7g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS(TA=25°C unless otherwise noted)					
PARAMETER	SYMBOL	TSF20U45C	TSF20U60C	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	V	
Maximum average forward rectified current	per device	20		A	
	per diode	10			
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	180	200	A	
Peak repetitive reverse surge current (Note 1)	I_{RRM}	0.5	3	A	
Voltage rate of change (Rated VR)	dV/dt	10000		V/ μ s	
Isolation voltage from terminal to heatsink t = 1 min	V_{AC}	1500	2000	V	
Breakdown voltage (IR =1.0mA, Ta =25°C)	V_{BR}	45	60	V	
Maximum instantaneous forward voltage per diode (Note2)	$T_J = 25^\circ\text{C}$	IF = 10A	0.50	0.51	V
		IF = 20A	0.60	0.65	
	$T_J = 125^\circ\text{C}$	IF = 10A	0.47	0.47	
		IF = 20A	0.60	-	
Maximum instantaneous reverse current per diode at rated reverse voltage	$T_J = 25^\circ\text{C}$	500		μ A	
	$T_J = 125^\circ\text{C}$	100		mA	
Typical thermal resistance per diode	$R_{\theta JC}$	3	4	$^\circ\text{C}/\text{W}$	
Operating junction temperature range	T_J	- 55 to +150		$^\circ\text{C}$	
Storage temperature range	T_{STG}	- 55 to +150		$^\circ\text{C}$	

Note 1: 2.0 μ s Pulse Width, f=1.0 kHz

Note 2: Pulse Test with Pulse Width=300 μ s, 1% Duty Cycle

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
TSF20UxxC (Note 1)	C0	Suffix "G"	ITO-220AB	50 / Tube

Note 1: "xx" defines voltage from 45V (TSF20U45C) to 60V (TSF20U60C)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
TSF20U60C C0	TSF20U60C	C0		
TSF20U60C C0G	TSF20U60C	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

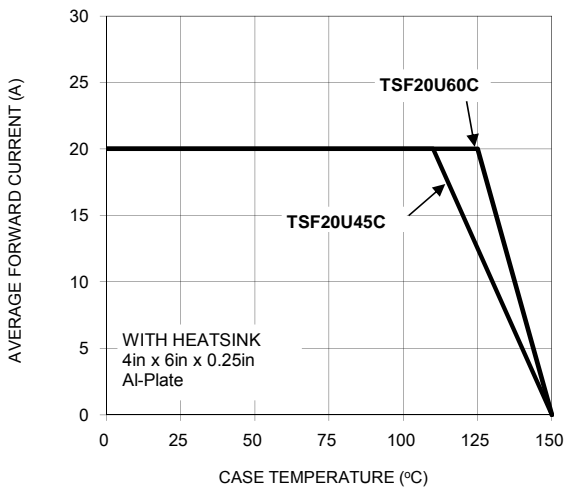


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

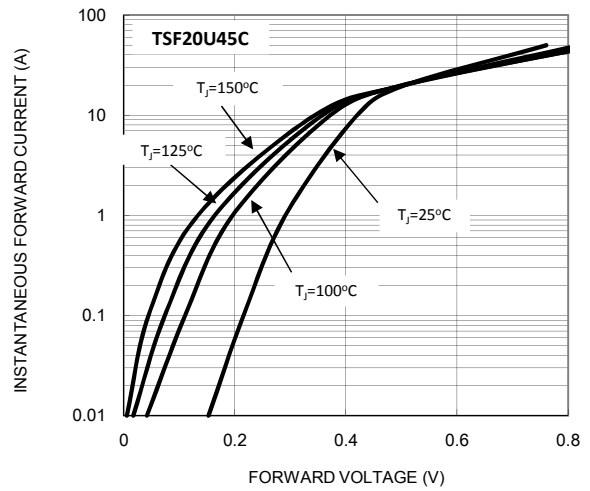


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

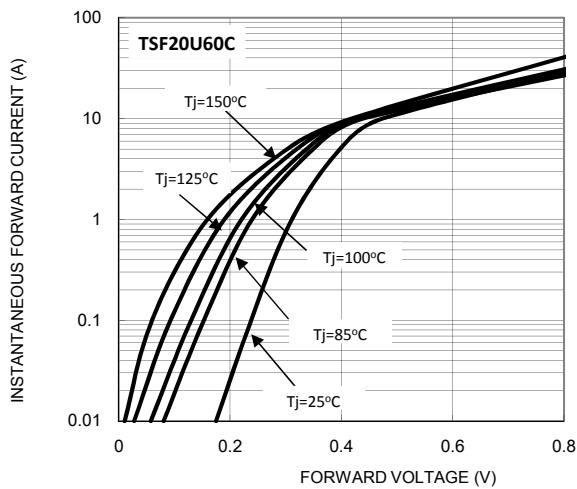


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

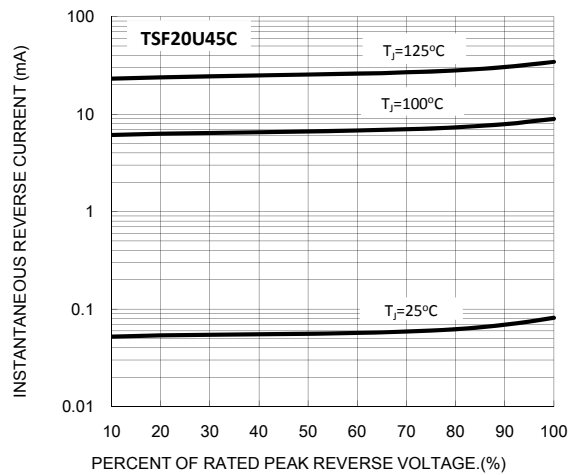


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

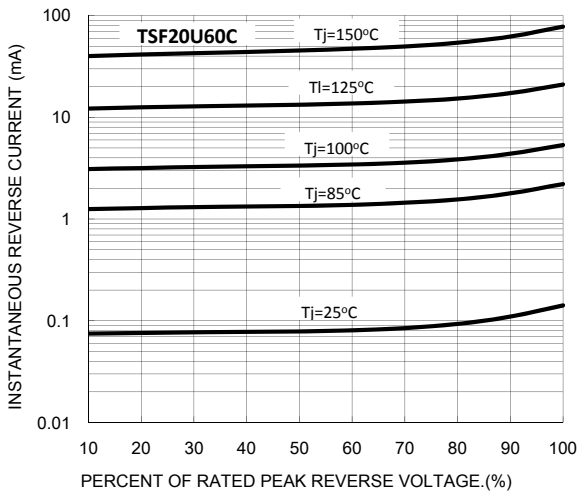
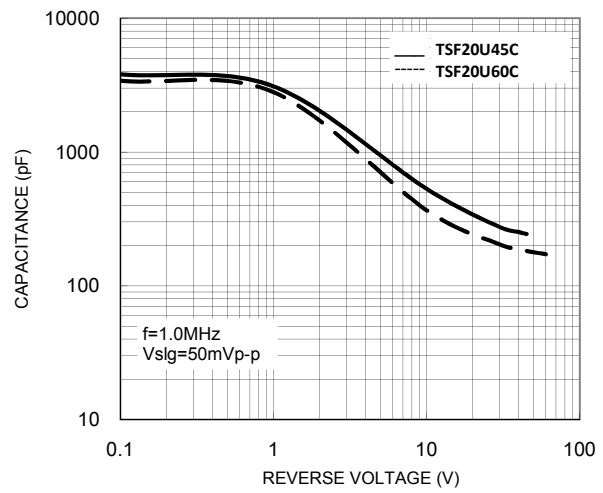
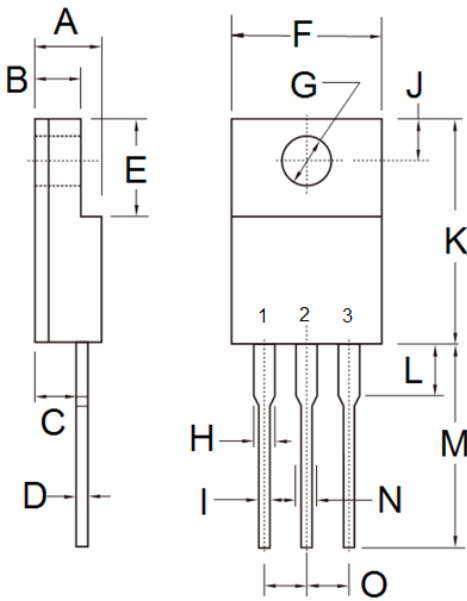


FIG. 6 TYPICAL JUNCTION CAPACITANCE



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
- G = Green Compound
- YWW = Date Code
- F = Factory Code