

25A, 600V - 800V Low V_F Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Low Forward drop enhance the efficiency
- Oxide Planar chip junction
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

MECHANICAL DATA

- Case: TS-6P
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Mounting torque: 0.80 N·m maximum
- Polarity: As marked
- Weight: 7.15g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	25	A
V_{RRM}	600 - 800	V
I_{FSM}	300	A
$T_{J\ MAX}$	150	°C
Package	TS-6P	
Configuration	Quad	


TS-6P


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

PARAMETER	SYMBOL	TS25PL05G	TS25PL06G	UNIT
Marking code on the device		TS25PL05G	TS25PL06G	
Repetitive peak reverse voltage	V_{RRM}	600	800	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	V
Forward current	I_F	25		A
Surge peak forward current, single half sine-wave superimposed on rated load	$t = 8.3\text{ms}$	300		A
	$t = 1.0\text{ms}$	900		A
Rating of fusing ($t < 8.3\text{ms}$)	I^2t	373.5		A^2s
Junction temperature	T_J	- 55 to +150		°C
Storage temperature	T_{STG}	- 55 to +150		°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	5.0	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	0.8	°C/W

Thermal Performance Note: Mounted on heat sink with 4" x 6" x 0.25" Al-Plate

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	TS25PL05G	$I_F = 12.5\text{A}, T_J = 25^\circ\text{C}$	V_F	0.87	0.92	V
	TS25PL06G			0.92	0.95	V
	TS25PL05G	$I_F = 12.5\text{A}, T_J = 125^\circ\text{C}$		0.75	-	V
	TS25PL06G			-	-	V
Reverse current @ rated V_R per diode ⁽²⁾		$T_J = 25^\circ\text{C}$	I_R	-	10	μA
		$T_J = 125^\circ\text{C}$		-	150	μA

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
TS25PLxG	TS-6P	15 / Tube
TS25PLxGH	TS-6P	15 / Tube

Notes:

1. "x" defines voltage from 600V(TS25PL05G) to 800V(TS25PL06G)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

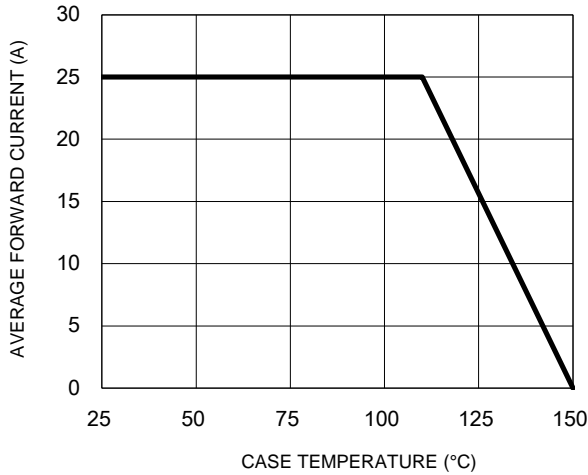


Fig.2 Typical Junction Capacitance

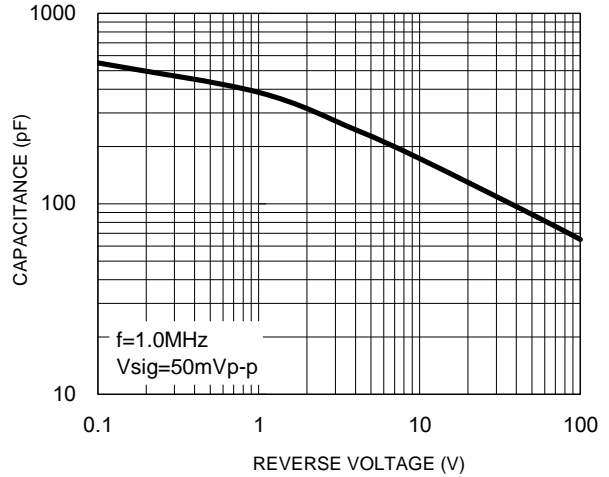


Fig.3 Typical Reverse Characteristics

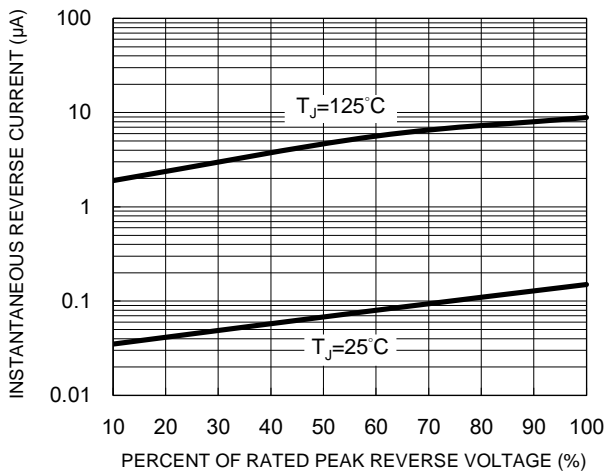


Fig.4 Typical Forward Characteristics

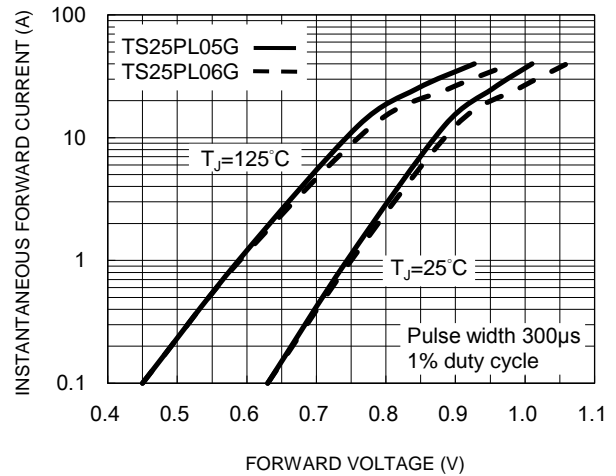
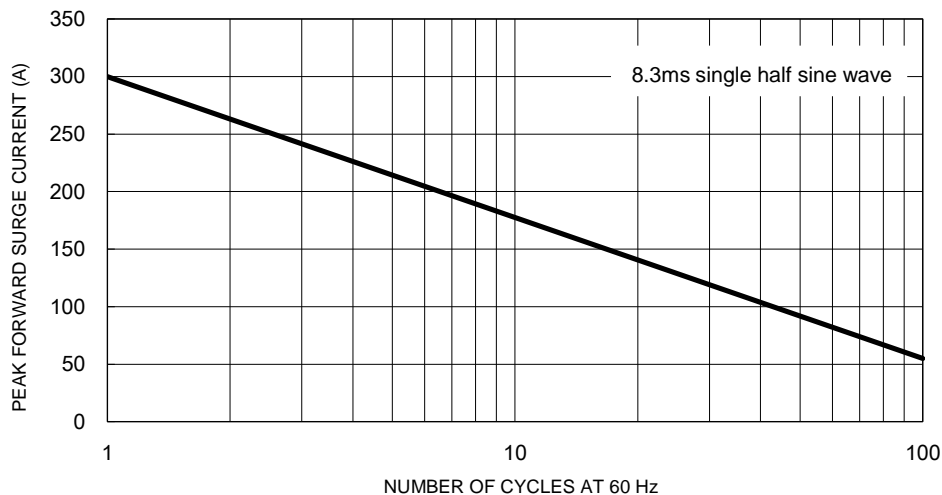
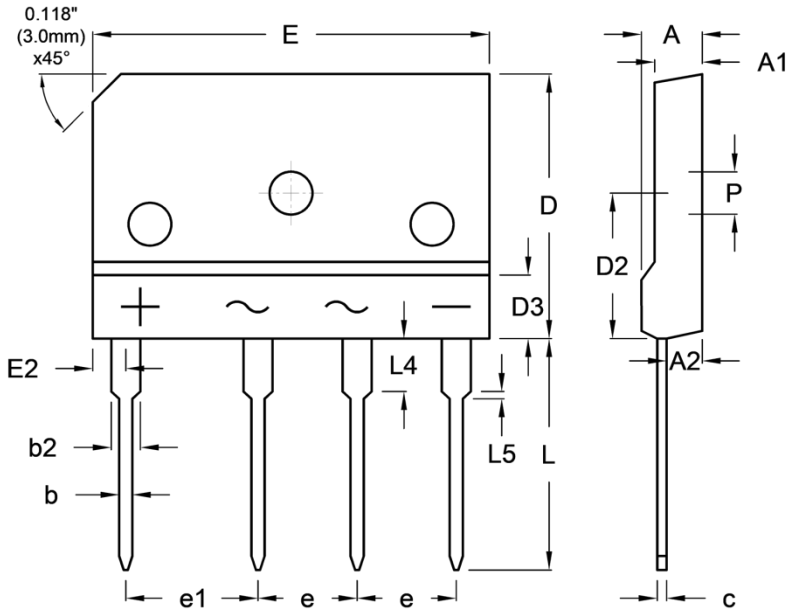


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

TS-6P



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.40	4.80	0.173	0.189
A1	3.40	3.80	0.134	0.150
A2	2.50	2.90	0.098	0.114
b	0.90	1.10	0.035	0.043
b2	2.00	2.40	0.079	0.094
c	0.65	0.75	0.026	0.030
D	19.70	20.30	0.776	0.799
D2	10.80	11.20	0.425	0.441
D3	-	4.80	-	0.189
E	29.70	30.30	1.169	1.193
E2	2.30	2.70	0.091	0.106
e	7.30	7.70	0.287	0.303
e1	9.80	10.20	0.386	0.402
L	17.00	18.00	0.669	0.709
L4	3.80	4.20	0.150	0.165
L5	0.45	0.65	0.018	0.026
P	3.10	3.40	0.122	0.134

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code