

## 50A, 600V - 1000V Standard Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- Ideal for printed circuit board
- Typical IR less than 0.1 $\mu$ A
- 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: 0.92 N·m maximum
- Polarity: As marked
- Weight: 7.15g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	50	A
$V_{RRM}$	600 - 1000	V
$I_{FSM}$	400	A
$T_{J\ MAX}$	150	$^{\circ}$ C
Package	TS-6P	
Configuration	Quad	


**TS-6P**


ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^{\circ}$ C unless otherwise noted)					
PARAMETER	SYMBOL	TS50P05G	TS50P06G	TS50P07G	UNIT
Marking code on the device		TS50P05G	TS50P06G	TS50P07G	
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Forward current	$I_F$	50			A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	400			A
Rating of fusing ( $t < 8.3ms$ )	$I^2t$	664			$A^2s$
Junction temperature	$T_J$	- 55 to +150			$^{\circ}$ C
Storage temperature	$T_{STG}$	- 55 to +150			$^{\circ}$ C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-case thermal resistance	$R_{\theta JC}$	0.56	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 25\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.1	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	10	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
TS50PxG	TS-6P	15 / Tube
TS50PxGH	TS-6P	15 / Tube

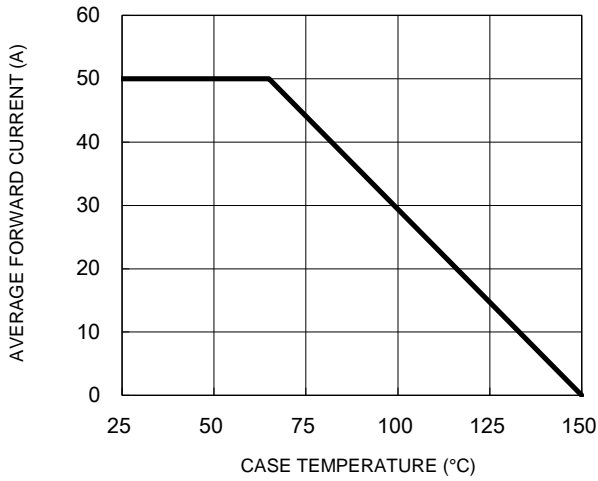
**Notes:**

1. "x" defines voltage from 600V(TS50P05G) to 1000V(TS50P07G)
2. "H" means AEC-Q101 qualified

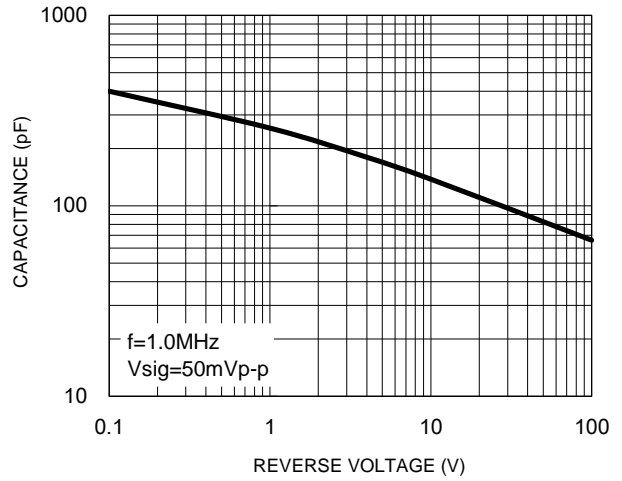
**CHARACTERISTICS CURVES**

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

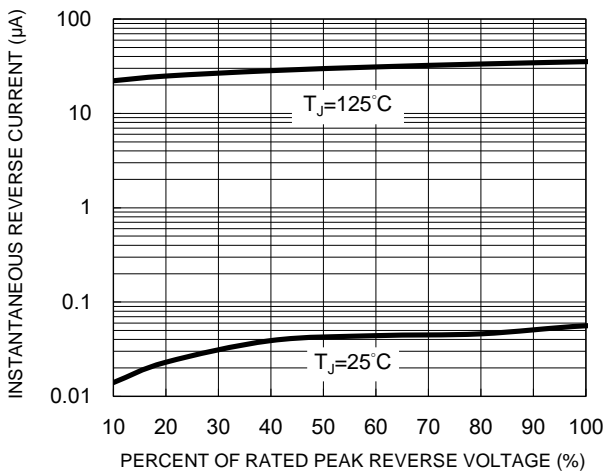
**Fig.1 Forward Current Derating Curve**



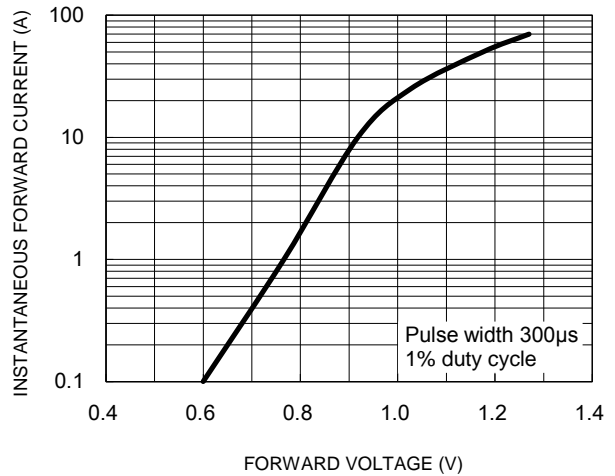
**Fig.2 Typical Junction Capacitance**



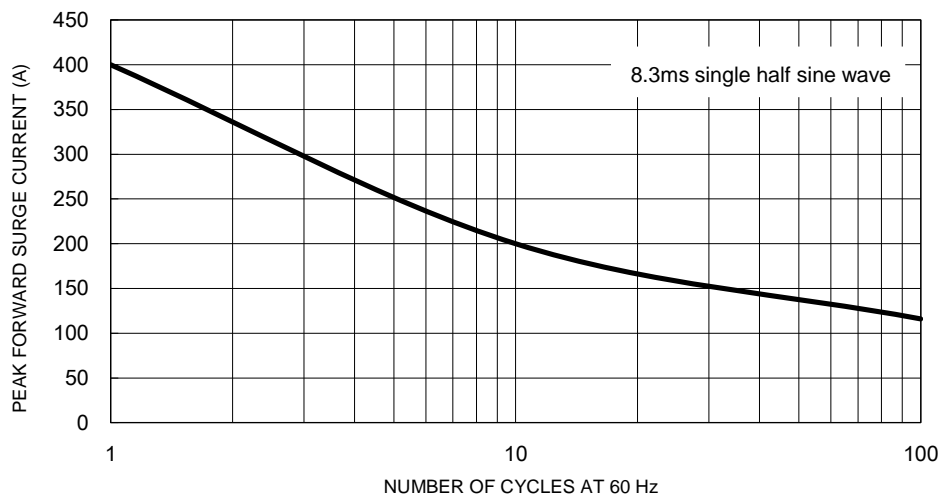
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

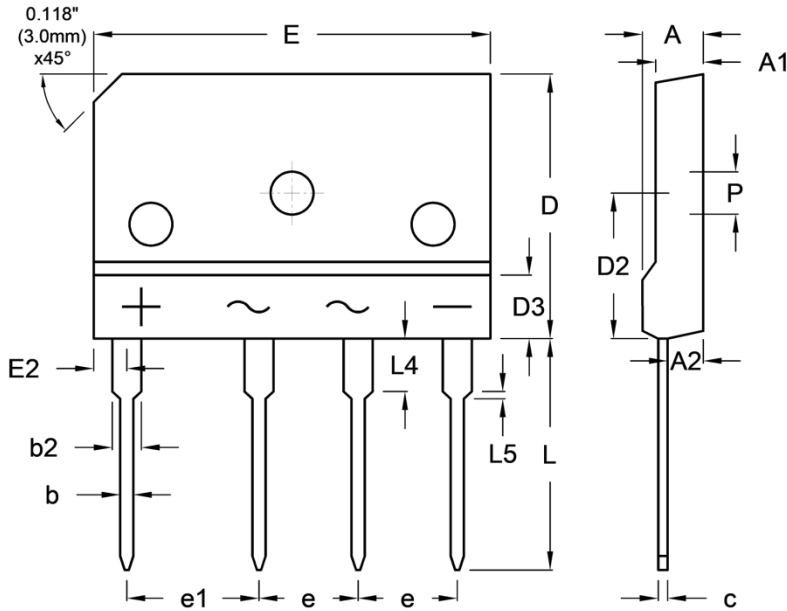


**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**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

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