

## 20A, 50V - 1000V Standard Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- Ideal for printed circuit board
- Typical IR less than 0.1μA
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

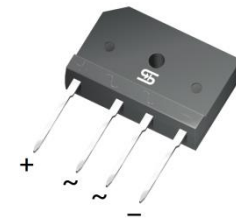
### APPLICATIONS

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

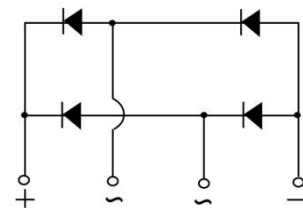
### MECHANICAL DATA

- 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
$I_F$	20	A
$V_{RRM}$	50 - 1000	V
$I_{FSM}$	250	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	TS20P 01G	TS20P 02G	TS20P 03G	TS20P 04G	TS20P 05G	TS20P 06G	TS20P 07G	UNIT
Marking code on the device		TS20P 01G	TS20P 02G	TS20P 03G	TS20P 04G	TS20P 05G	TS20P 06G	TS20P 07G	
Repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	$I_F$	20							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	250							A
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	259.37							A <sup>2</sup> s
Junction temperature	$T_J$	- 55 to +150							°C
Storage temperature	$T_{STG}$	- 55 to +150							°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-case thermal resistance	$R_{\theta JC}$	0.8	°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>	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.0	V
	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$		-	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>
TS20PxG	TS-6P	15 / Tube
TS20PxGH	TS-6P	15 / Tube

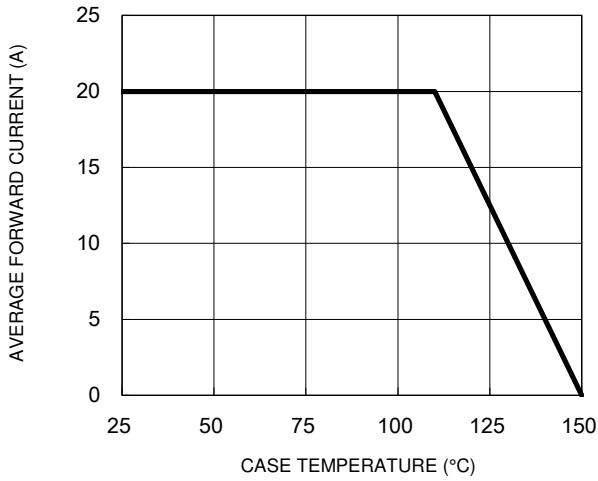
**Notes:**

1. "x" defines voltage from 50V(TS20P01G) to 1000V(TS20P07G)
2. "H" means AEC-Q101 qualified

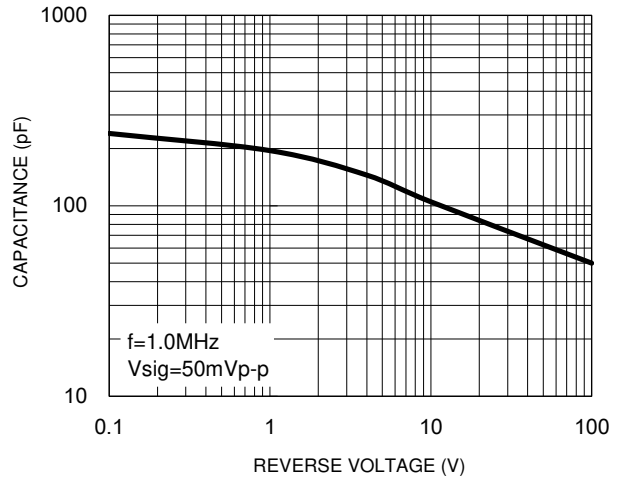
**CHARACTERISTICS CURVES**

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

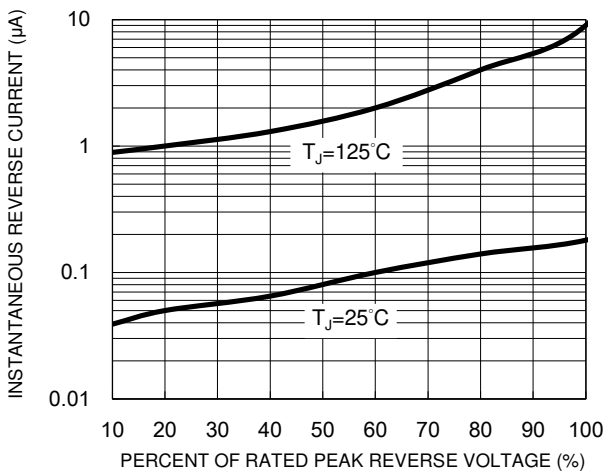
**Fig.1 Forward Current Derating Curve**



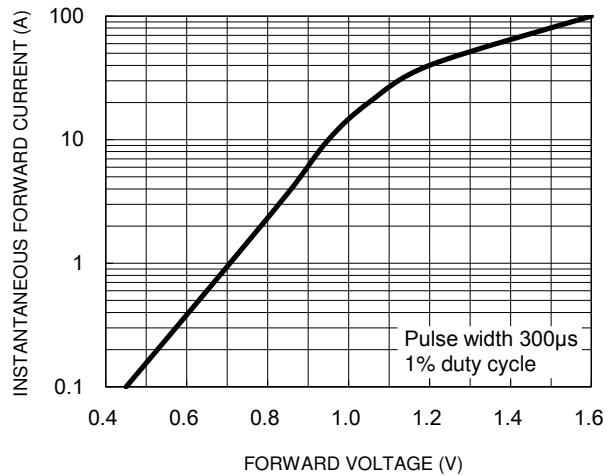
**Fig.2 Typical Junction Capacitance**



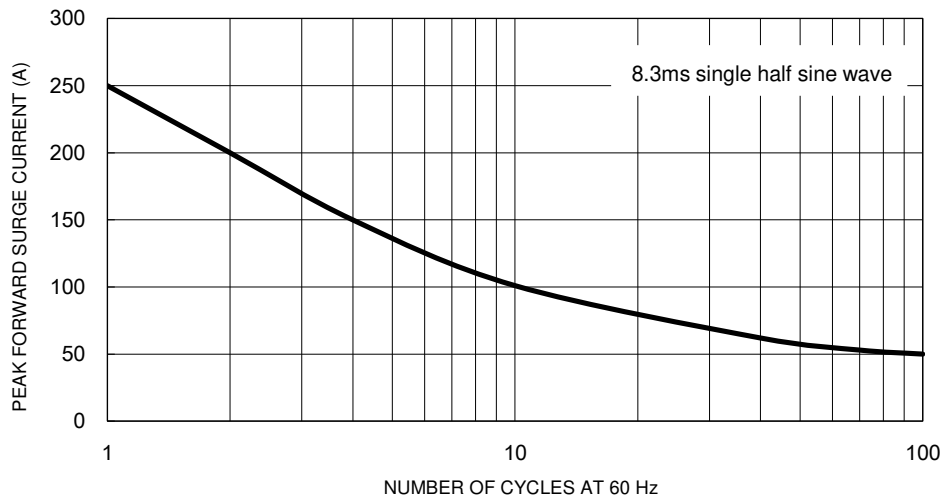
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

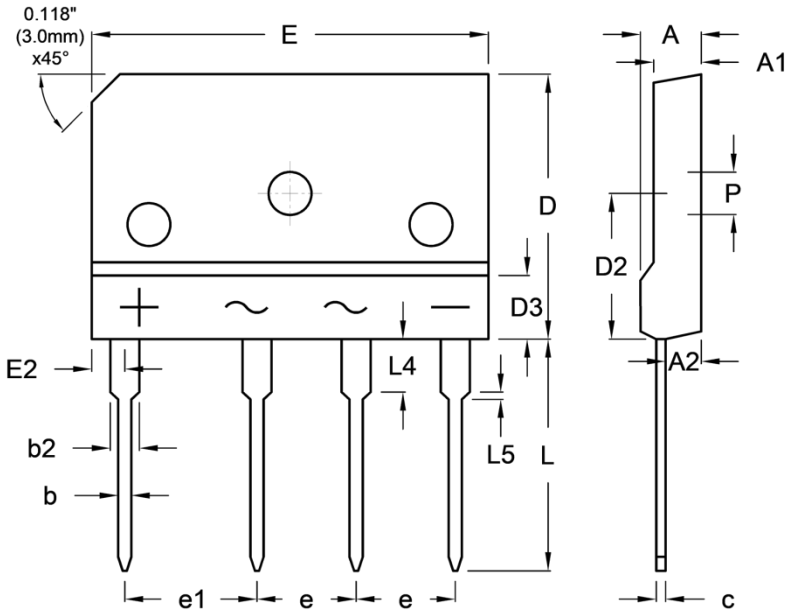


**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**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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