

20A, 50V - 1000V Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- Ideal for printed circuit board
- Typical IR less than 0.1 μ 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	20	A
V_{RRM}	50 - 1000	V
I_{FSM}	250	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	TS20P	TS20P	TS20P	TS20P	TS20P	TS20P	TS20P	UNIT
		01G	02G	03G	04G	05G	06G	07G	
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 ($t < 8.3ms$)	I^2t	259.37							A ² s
Junction temperature	T_J	- 55 to +150							$^{\circ}$ C
Storage temperature	T_{STG}	- 55 to +150							$^{\circ}$ C

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

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$	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 ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	500	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
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

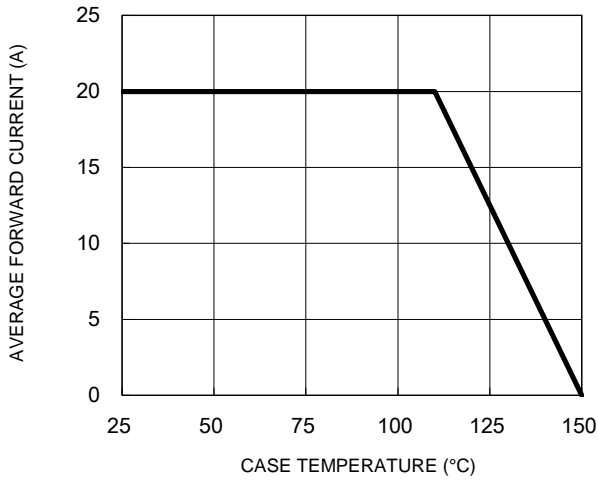


Fig.2 Typical Junction Capacitance

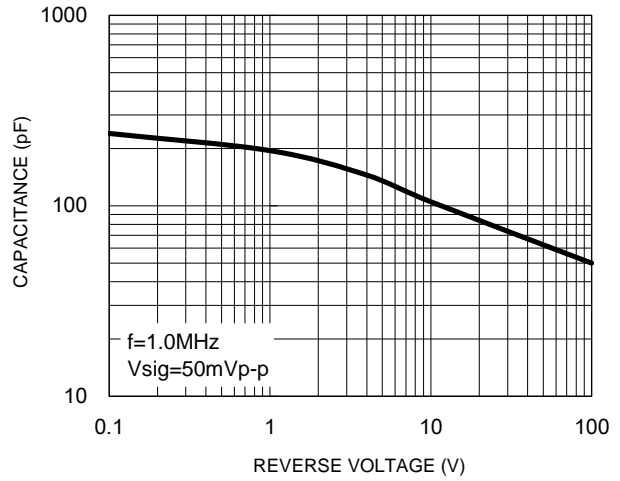


Fig.3 Typical Reverse Characteristics

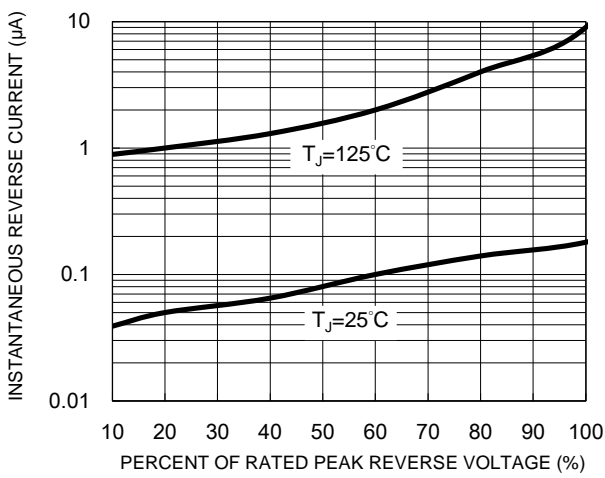


Fig.4 Typical Forward Characteristics

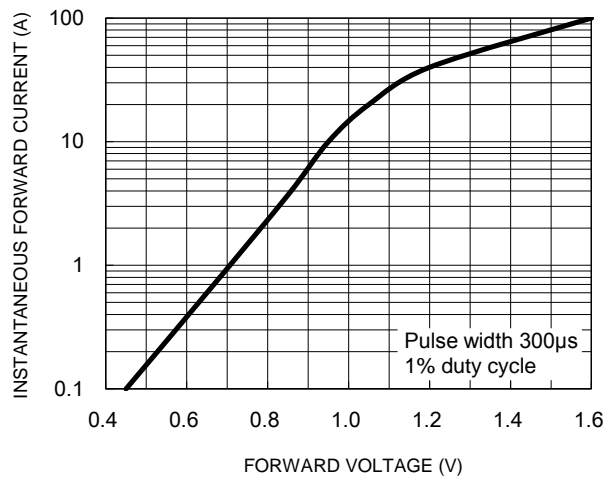
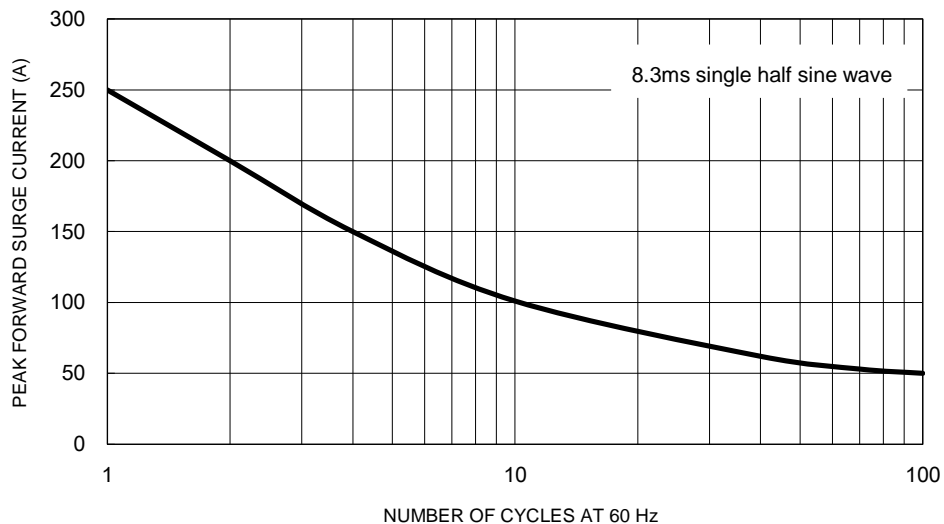
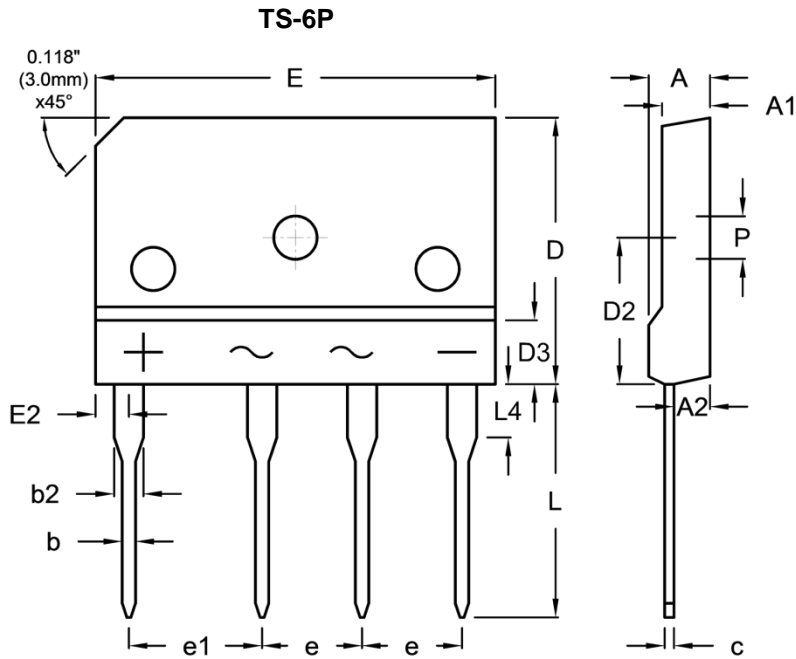


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS



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
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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