

## 4A, 400V - 1000V Standard Bridge Rectifier

### FEATURES

- Ideal for printed circuit board
- High surge current capability
- Typical  $I_R$  less than  $0.1\mu A$
- UL Recognized File # E-326243
- AEC-Q101 available
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

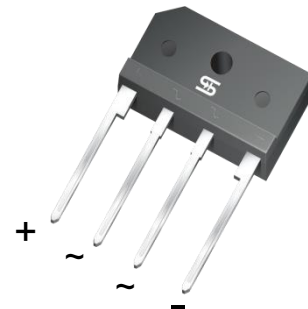
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

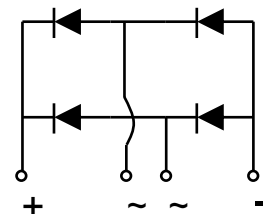
### MECHANICAL DATA

- Case: TS4K
- 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
- Polarity: As marked
- Mounting torque: 8.17 in-lbs maximum
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	4	A
$V_{RRM}$	400 - 1000	V
$I_{FSM}$	120	A
$T_{JMAX}$	150	°C
Package	TS4K	
Configuration	Quad	



TS4K



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ unless otherwise noted)						
PARAMETER	SYMBOL	TS4K40	TS4K60	TS4K80	TS4K100	UNIT
Marking code on the device		TS4K40	TS4K60	TS4K80	TS4K100	
Repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	560	700	V
Forward current	$I_F$	4				A
Surge peak forward current single half sine-wave superimposed on rated load per diode	$t = 8.3ms$ $I_{FSM}$	120				A
Rating of fusing ( $t < 8.3ms$ )	$I^2t$	60				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	$R_{\theta JC}$	5.5	°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>	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.0	V
	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$		-	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>
TS4Kx	TS4K	20 / Tube
TS4KxH	TS4K	20 / Tube

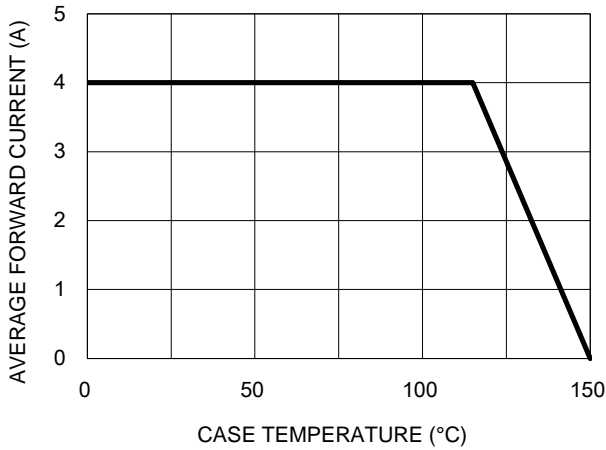
**Notes:**

1. "x" defines voltage from 400V(TS4K40) to 1000V(TS4K100)
2. "H" means AEC-Q101 qualified

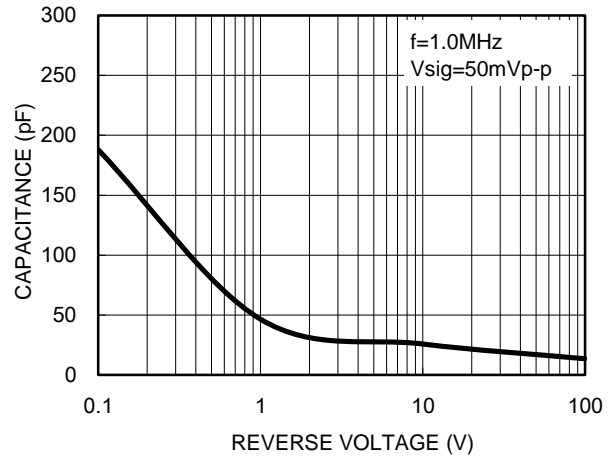
**CHARACTERISTICS CURVES**

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

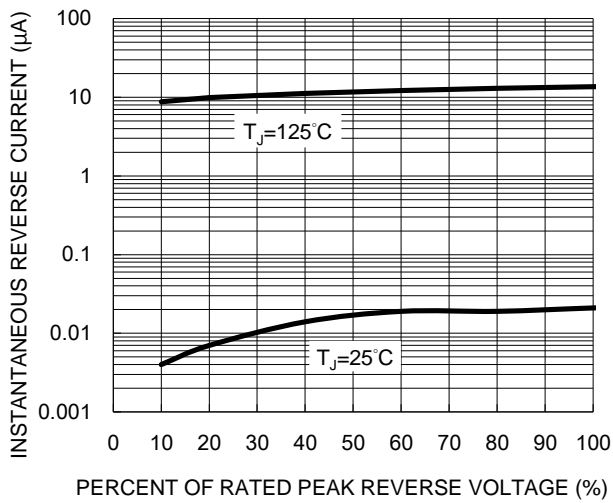
**Fig.1 Forward Current Derating Curve**



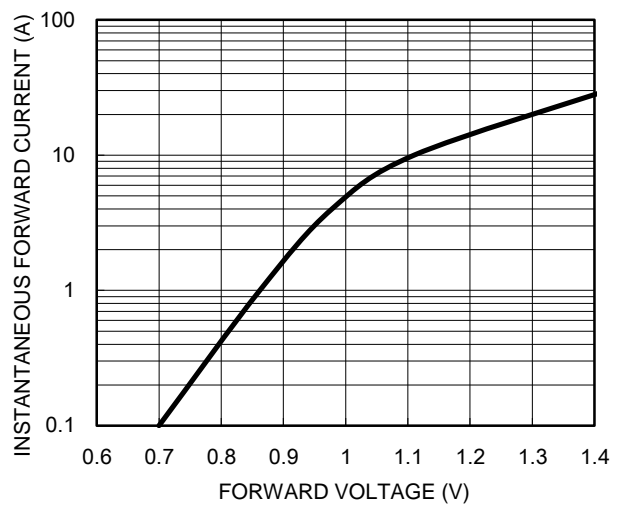
**Fig.2 Typical Junction Capacitance**



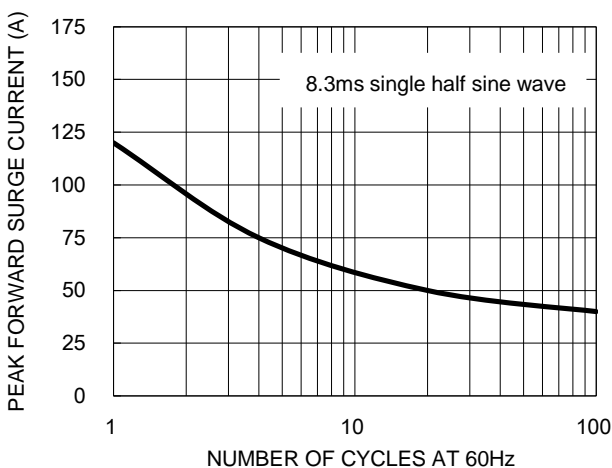
**Fig.3 Typical Reverse Characteristics**



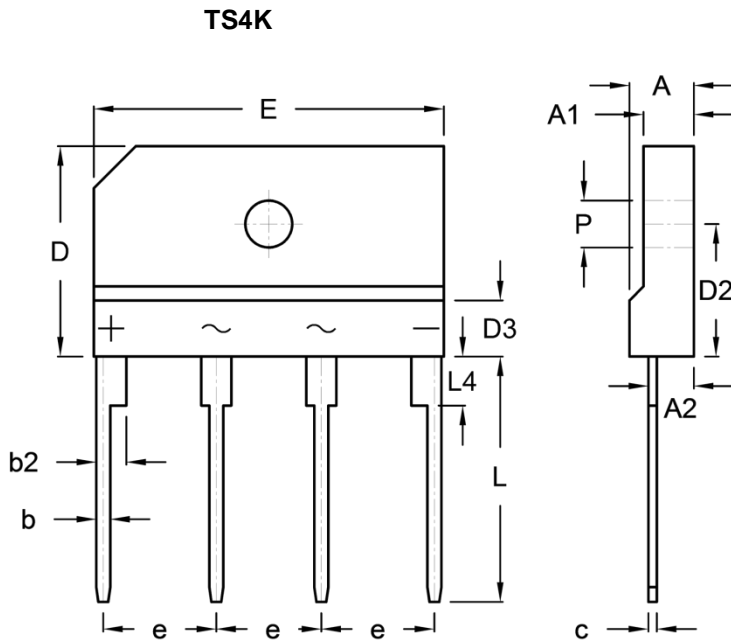
**Fig.4 Typical Forward Characteristics**



**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	3.10	3.40	0.122	0.134
b	0.90	1.10	0.035	0.043
b2	2.00	2.30	0.079	0.091
c	0.50	0.70	0.020	0.028
D	14.70	15.30	0.579	0.602
D2	9.30	9.60	0.366	0.378
D3	3.00	5.00	0.118	0.197
E	24.70	25.30	0.972	0.996
e	7.30	7.70	0.287	0.303
L	17.00	18.00	0.669	0.709
L4	3.30	3.70	0.130	0.146
P	3.10	3.60	0.122	0.142

**MARKING DIAGRAM**



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

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