

## 4A, 400V - 800V Standard Bridge Rectifier

### FEATURES

- Glass passivated chip junction
- Ideal for printed circuit board
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

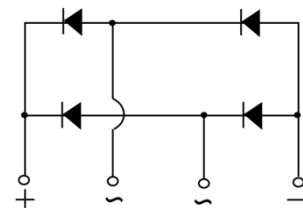
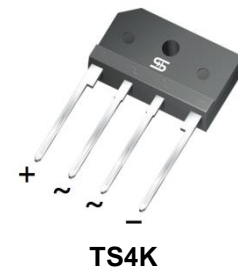
### APPLICATIONS

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

### MECHANICAL DATA

- Case: TS4K
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.92 N·m maximum
- Polarity: As marked
- Weight: 4.10g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	4	A
$V_{RRM}$	400 - 800	V
$I_{FSM}$	120	A
$T_{J\ MAX}$	150	°C
Package	TS4K	
Configuration	Quad	



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	TS4K40-A	TS4K60-A	TS4K80-A	UNIT
Marking code on the device		TS4K40	TS4K60	TS4K80	
Repetitive peak reverse voltage	$V_{RRM}$	400	600	800	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	560	V
Forward current	$I_F$	4			A
Surge peak forward current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	120			A
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	60			$\text{A}^2\text{s}$
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-lead thermal resistance	$R_{\theta JL}$	7	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	18	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	6	°C/W

**Thermal Performance Note:** Mounted on heat sink size of 2" x 3" x 0.25" Al -plate

<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
	$I_F = 2\text{A}, T_J = 125^\circ\text{C}$		-	0.9	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	$\mu\text{A}$
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	$C_J$	42	-	pF

**Notes:**

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
TS4Kx-A	TS4K	20 / Tube

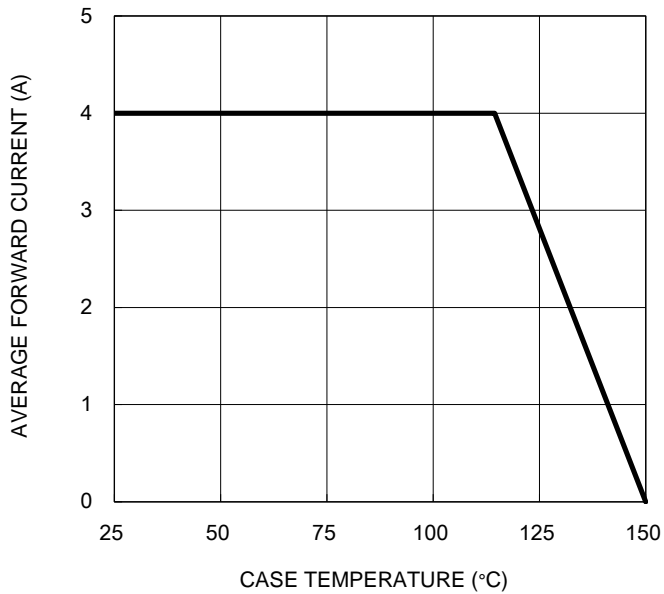
**Notes:**

1. "x" defines voltage from 400V(TS4K40-A) to 800V(TS4K80-A)

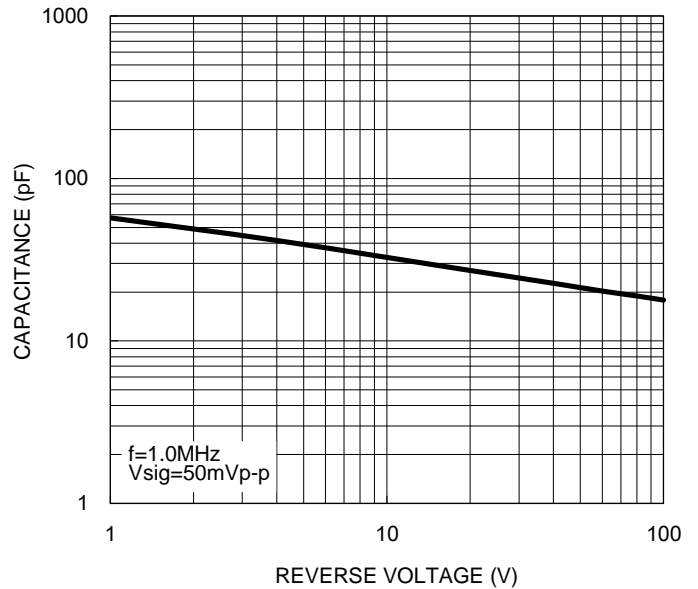
**CHARACTERISTICS CURVES**

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

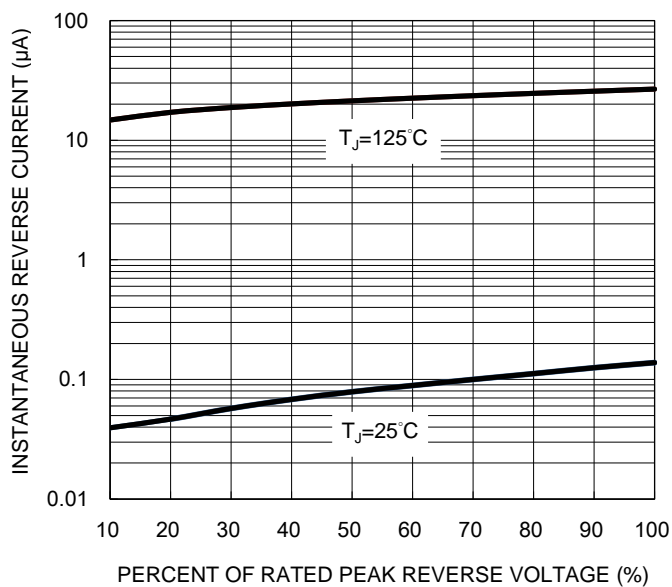
**Fig.1 Forward Current Derating Curve**



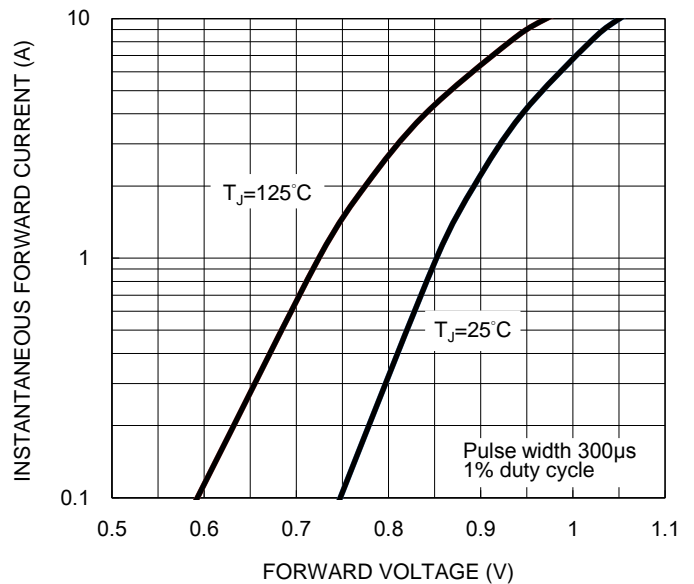
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

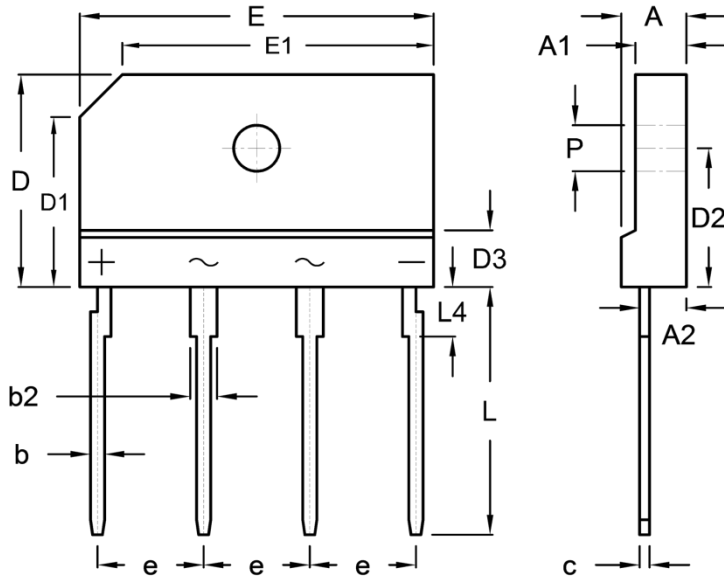


**Fig.4 Typical Forward Characteristics**



**PACKAGE OUTLINE DIMENSIONS**

TS4K



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	3.20	3.40	0.126	0.134
b	0.90	1.10	0.035	0.043
b2	1.70	2.10	0.067	0.083
c	0.60	0.80	0.024	0.031
D	14.70	15.30	0.579	0.602
D1	11.50	12.50	0.453	0.492
D2	9.50	10.10	0.374	0.398
D3	3.80	4.20	0.150	0.165
E	24.70	25.30	0.972	0.996
E1	21.50	22.50	0.846	0.886
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	3.40	0.122	0.134

**MARKING DIAGRAM**



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

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