10A, 400V - 1000V Standard Bridge Rectifier

FEATURES

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

APPLICATIONS

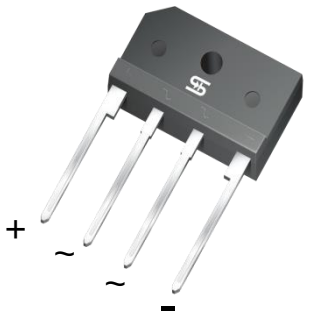
- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

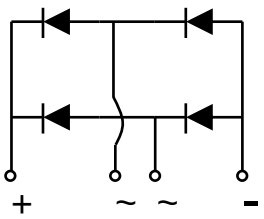
- Case: TS4K
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Mounting torque: 8.17 in-lbs maximum
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	10	A
V_{RRM}	400 - 1000	V
I_{FSM}	150	A
$T_{J\ MAX}$	150	°C
Package	TS4K	
Configuration	Quad	

Pb-Free RoHS COMPLIANT HALOGEN FREE



TS4K



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	TS10K 40	TS10K 60	TS10K 80	TS10K 100	UNIT
Marking code on the device			TS10K40	TS10K60	TS10K80	TS10K100	
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	10				A
Surge peak forward current single half sine-wave superimposed on rated load per diode	t = 8.3ms	I_{FSM}	150				A
Rating of fusing (t<8.3ms)		I^2t	93				A^2s
Junction temperature		T_J	- 55 to +150				°C
Storage temperature		T_{STG}	- 55 to +150				°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**TYP**	**UNIT**
Junction-to-case thermal resistance	$R_{\Theta JC}$	2.3	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode[1]	I_F = 5A, T_J = 25°C	V_F	-	1.0	V
	I_F = 10A, T_J = 25°C		-	1.1	V
Reverse current @ rated V_R per diode[2]	T_J = 25°C	I_R	-	10	μA
	T_J =125°C		-	500	μA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
TS10Kx	TS4K	20 / Tube
TS10KxH	TS4K	20 / Tube

Notes:

1. “x” defines voltage from 400V(TS10K40) to 1000V(TS10K100)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

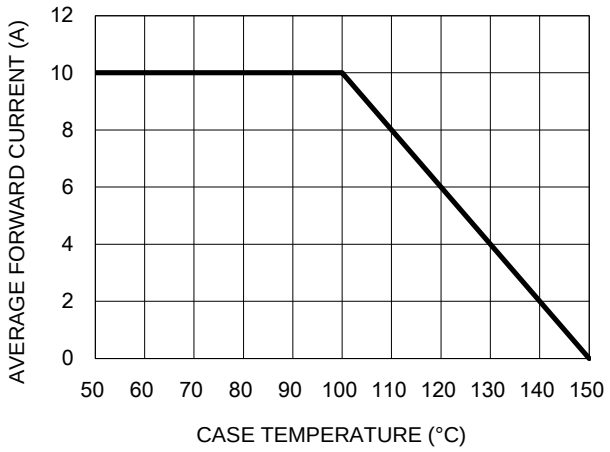


Fig.2 Typical Junction Capacitance

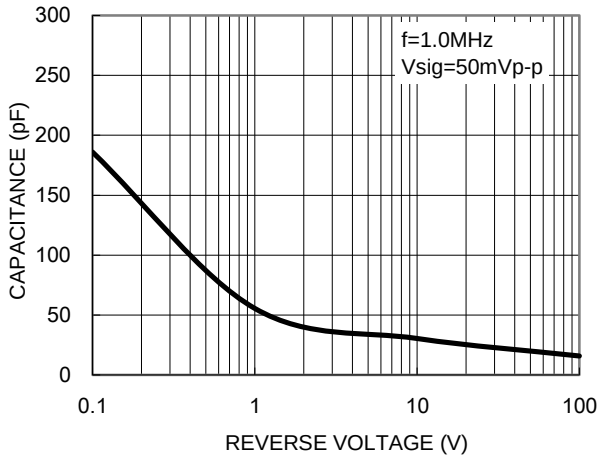


Fig.3 Typical Reverse Characteristics

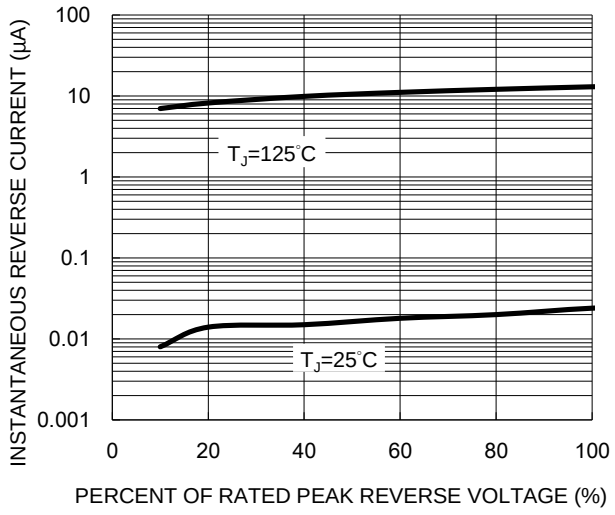


Fig.4 Typical Forward Characteristics

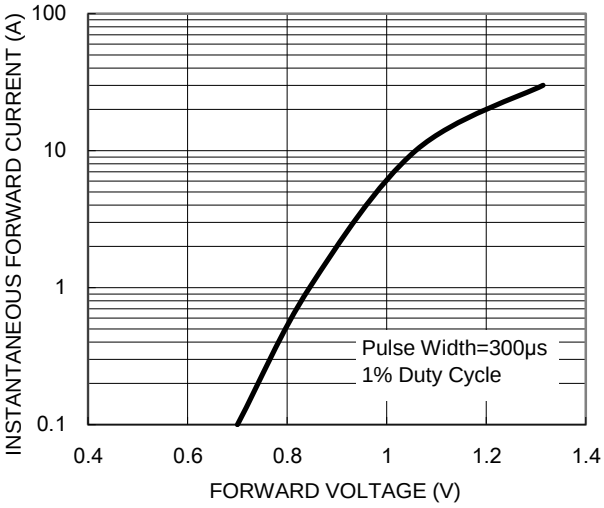
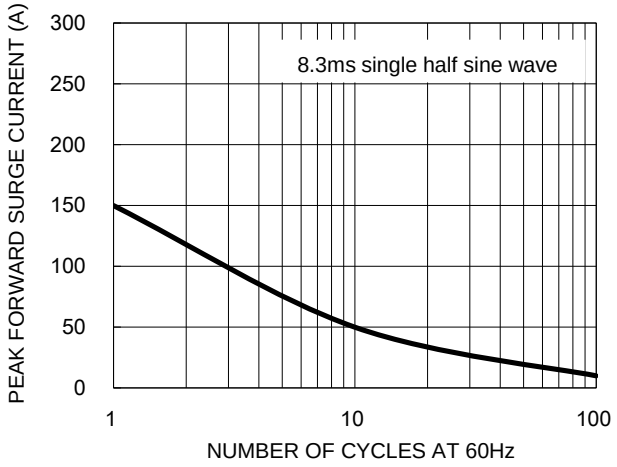
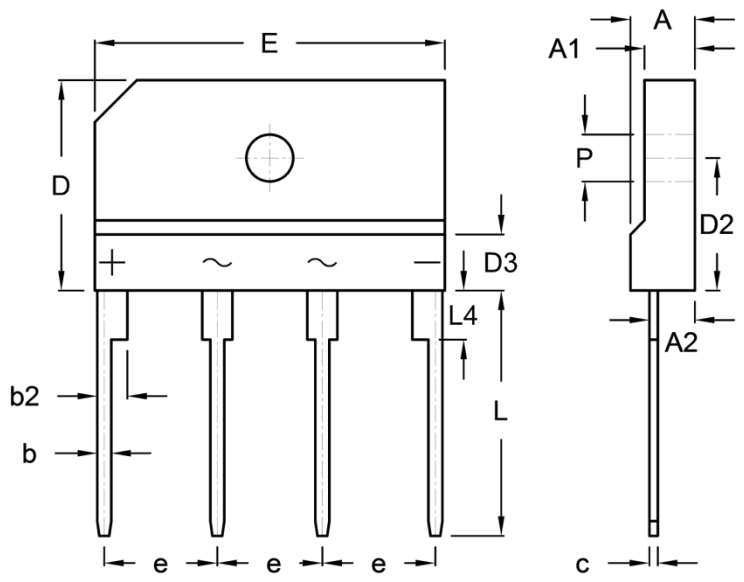


Fig.5 Maximum Non-repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

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	3.10	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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