6A, 50V - 1000V Standard Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- High current capability, Low V_F
- High reliability
- High surge current capability
- Low power loss
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

MECHANICAL DATA

- Case: R-6
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 1.65g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	6	A
V_{RRM}	50 - 1000	V
I_{FSM}	250	A
$T_{J\ MAX}$	150	°C
Package	R-6	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

R-6

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)									
PARAMETER	**SYMBOL**	**6A 05G**	**6A 10G**	**6A 20G**	**6A 40G**	**6A 60G**	**6A 80G**	**6A 100G**	**UNIT**
Marking code on the device		6A 05G	6A 10G	6A 20G	6A 40G	6A 60G	6A 80G	6A 100G	
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	6							A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	250							A
Junction temperature	T_J	-55 to +150							°C
Storage temperature	T_{STG}	-55 to +150							°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	35	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	6A05G 6A10G	I_F = 6A, T_J = 25°C	V_F	-	1.1	V
	6A20G 6A40G 6A60G 6A80G 6A100G			-	1.0	V
Reverse current @ rated V_R[2]		T_J = 25°C	I_R	-	10	μA
		T_J = 125°C		-	100	μA
Junction capacitance		1MHz, V_R = 4.0V	C_J	60	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
6AxG	R-6	1,000 / Tape & Reel
6AxG A0G	R-6	700 / Ammo box
6AxGH	R-6	1,000 / Tape & Reel
6AxGHA0G	R-6	700 / Ammo box

Notes:

1. “x” defines voltage from 50V (6A05G) to 1000V (6A100G)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

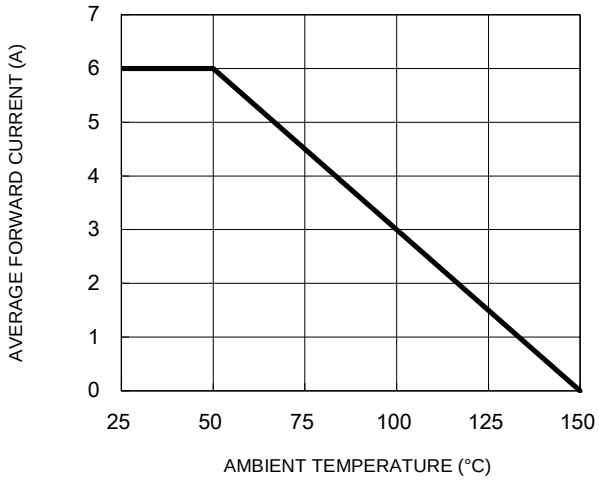


Fig.2 Typical Junction Capacitance

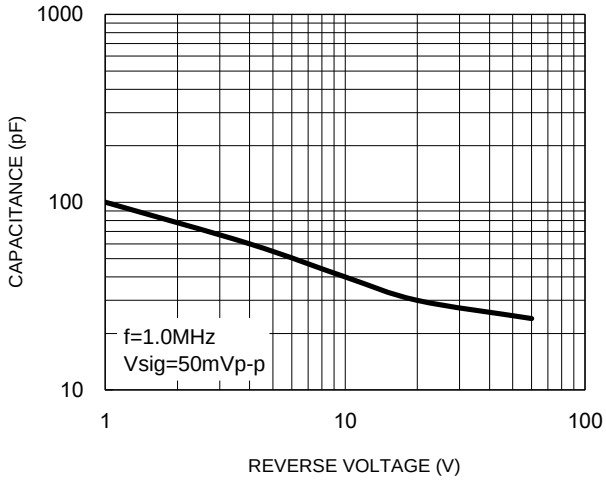


Fig.3 Typical Reverse Characteristics

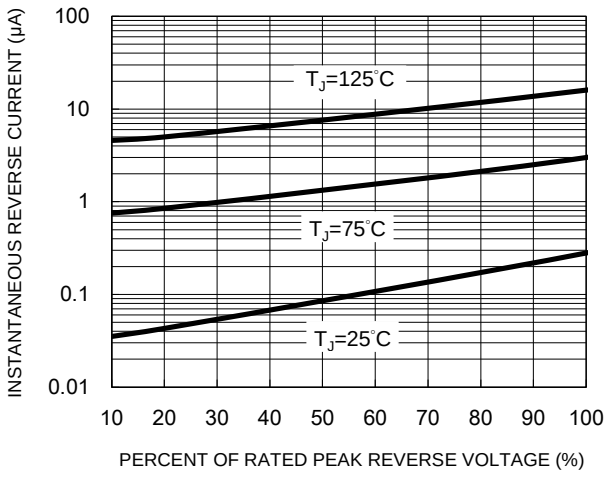


Fig.4 Typical Forward Characteristics

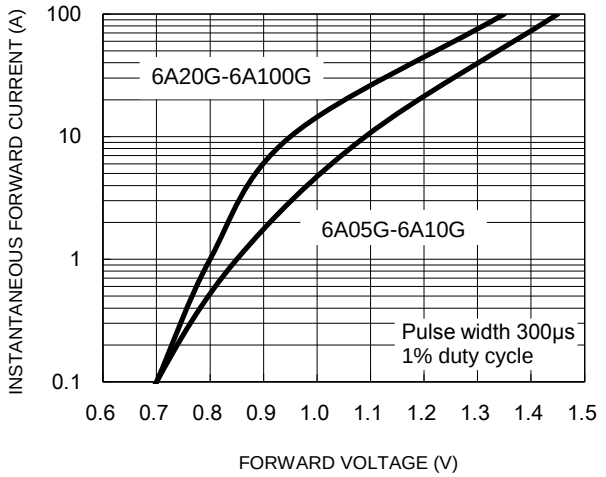
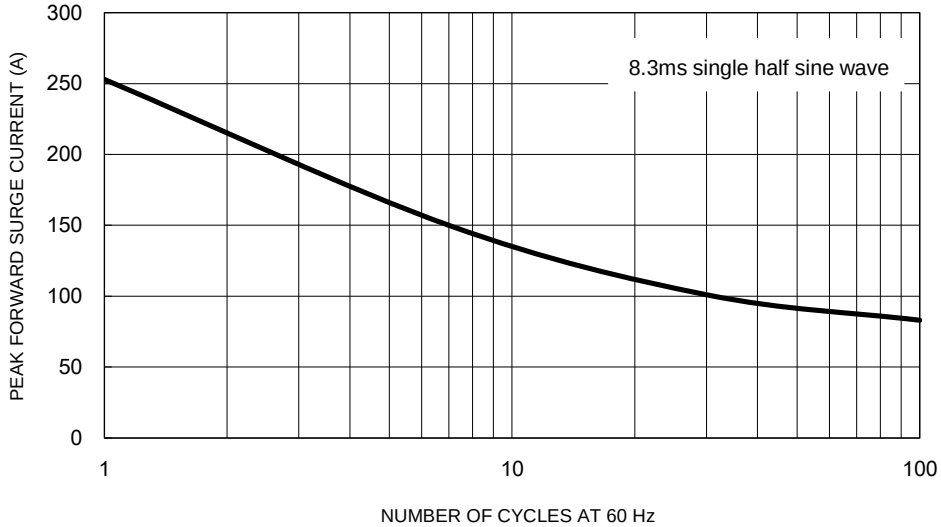
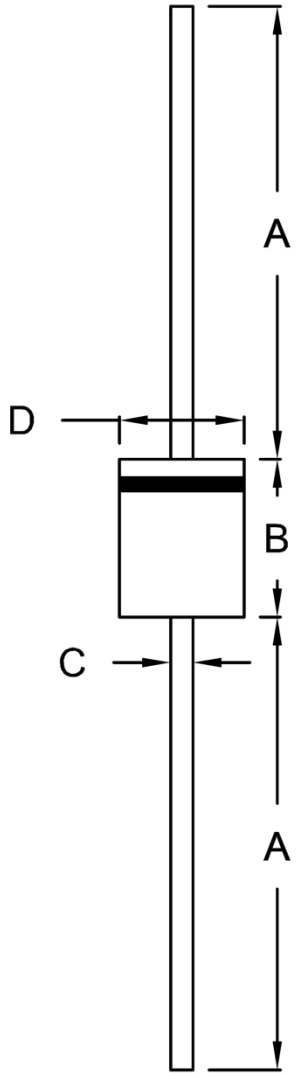


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

R-6



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.60	9.10	0.339	0.358
C	1.20	1.30	0.047	0.051
D	6.80	7.20	0.268	0.283

MARKING DIAGRAM

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

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