2A, 50V - 1000V High Efficient Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- High efficiency, Low V_F
- High current capability
- 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
- Freewheeling application

MECHANICAL DATA

- Case: DO-204AC (DO-15)
- 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: 0.400g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	2	A
V_{RRM}	50 - 1000	V
I_{FSM}	60	A
$T_{J\ MAX}$	150	°C
Package	DO-204AC (DO-15)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-204AC (DO-15)

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

PARAMETER	SYMBOL	HER 201G	HER 202G	HER 203G	HER 204G	HER 205G	HER 206G	HER 207G	HER 208G	UNIT
Marking code on the device		HER 201G	HER 202G	HER 203G	HER 204G	HER 205G	HER 206G	HER 207G	HER 208G	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	210	280	420	560	700	V
Forward current	I_F	2								A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	60								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	$R_{\Theta JA}$	60	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	HER201G HER202G HER203G HER204G	I_F = 2A, T_J = 25°C	V_F	-	1.0	V
	HER205G			-	1.3	V
	HER206G HER207G HER208G			-	1.7	V
Reverse current @ rated V_R[2]		T_J = 25°C	I_R	-	5	μA
		T_J = 125°C		-	150	μA
Junction capacitance	HER201G HER202G HER203G HER204G HER205G	1MHz, V_R = 4.0V	C_J	35	-	pF
	HER206G HER207G HER208G			20	-	pF
Reverse recovery time	HER201G HER202G HER203G HER204G HER205G	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	-	50	ns
	HER206G HER207G HER208G			-	75	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
HER20xG	DO-204AC (DO-15)	3,500 / Tape & Reel
HER20xG A0G	DO-204AC (DO-15)	1,500 / Ammo box
HER20xGH	DO-204AC (DO-15)	3,500 / Tape & Reel
HER20xGHA0G	DO-204AC (DO-15)	1,500 / Ammo box

Notes:

1. "x" defines voltage from 50V (HER201G) to 1000V (HER208G)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

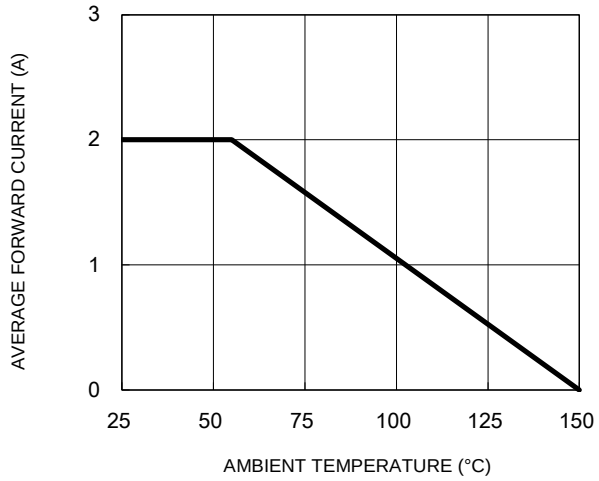


Fig.2 Typical Junction Capacitance

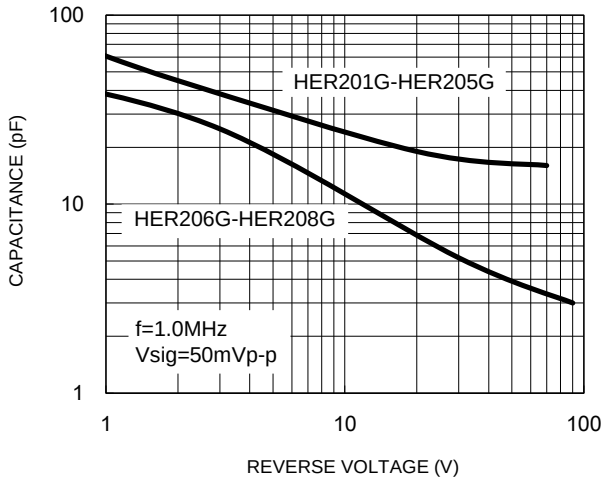


Fig.3 Typical Reverse Characteristics

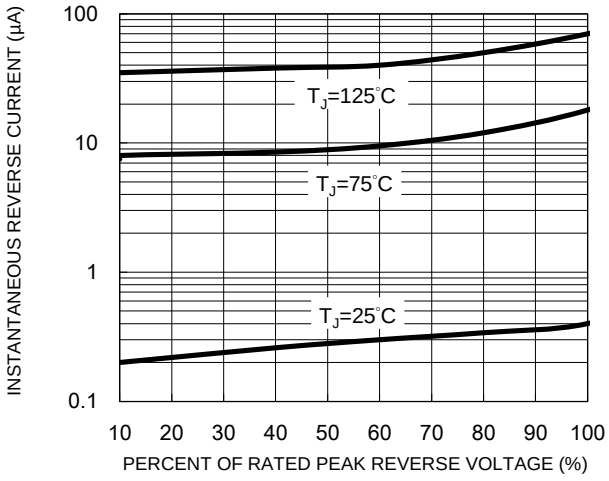


Fig.4 Typical Forward Characteristics

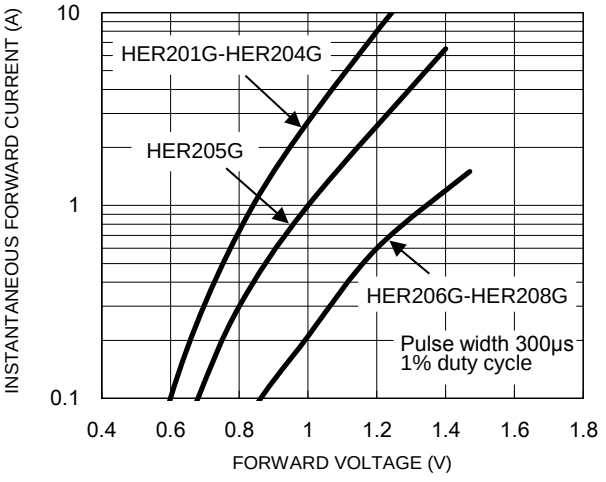
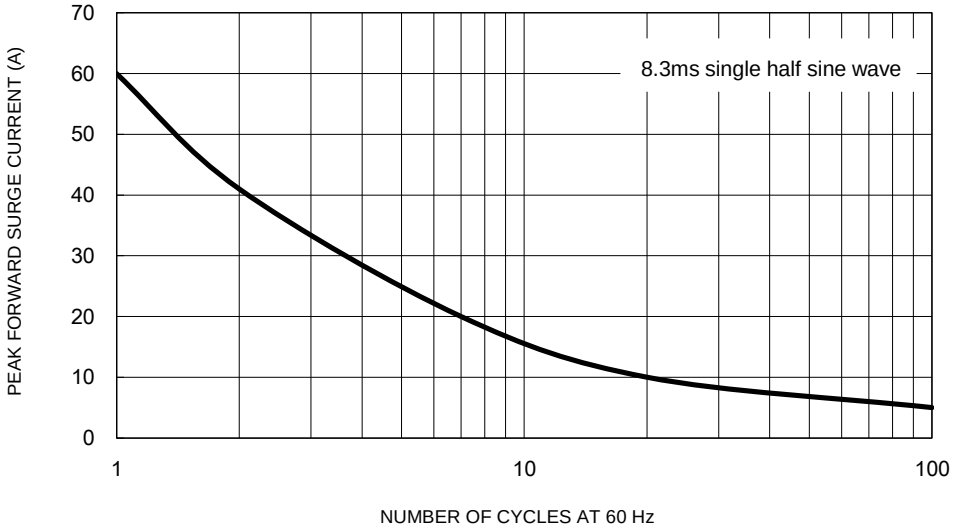


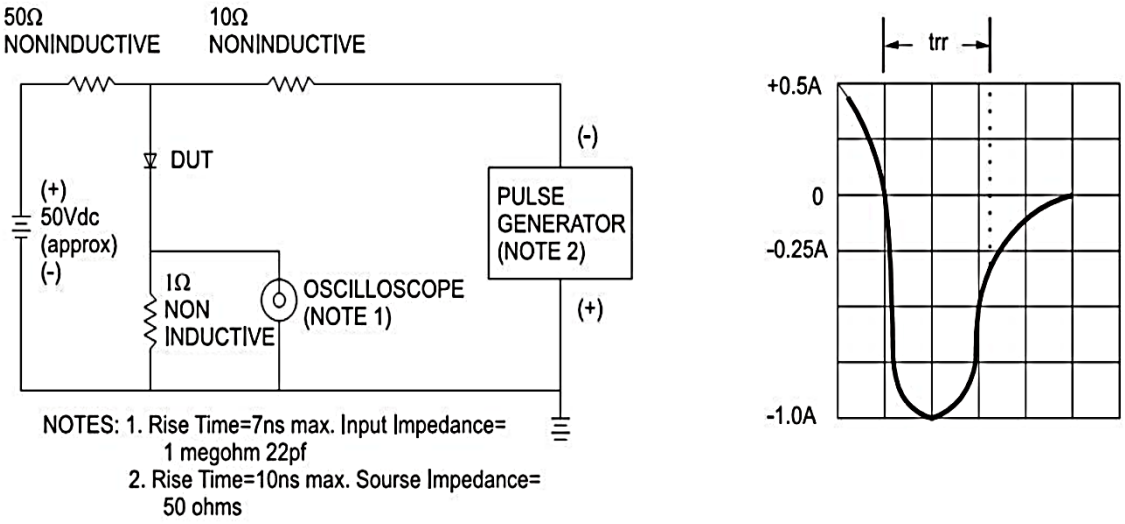
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

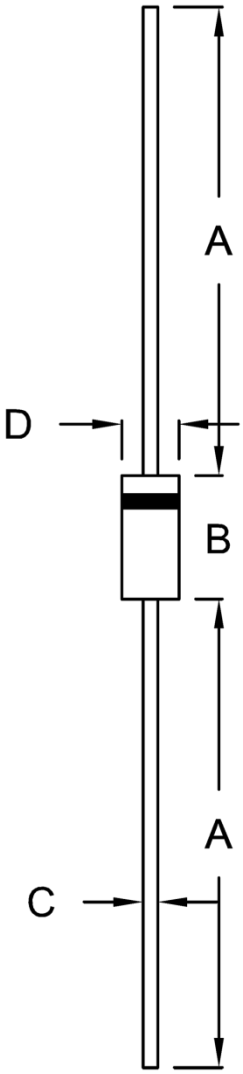
(T_A = 25°C unless otherwise noted)

Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram



PACKAGE OUTLINE DIMENSIONS

DO-204AC (DO-15)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	5.80	7.60	0.228	0.299
C	0.70	0.90	0.028	0.035
D	2.60	3.60	0.102	0.142

MARKING DIAGRAM

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

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