

1.5A, 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	1.5	A
V_{RRM}	50 - 1000	V
I_{FSM}	50	A
T_{JMAX}	150	°C
Package	DO-204AC (DO-15)	
Configuration	Single die	



DO-204AC (DO-15)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	HER 151G	HER 152G	HER 153G	HER 154G	HER 155G	HER 156G	HER 157G	HER 158G	UNIT
Marking code on the device		HER 151G	HER 152G	HER 153G	HER 154G	HER 155G	HER 156G	HER 157G	HER 158G	
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	1.5								A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	50								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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	HER151G HER152G HER153G HER154G	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.0	V
	HER155G			-	1.3	V
	HER156G HER157G HER158G			-	1.7	V
Reverse current @ rated V_R ⁽²⁾		$T_J = 25^\circ\text{C}$	I_R	-	5	μA
		$T_J = 125^\circ\text{C}$		-	150	μA
Junction capacitance	HER151G HER152G HER153G HER154G HER155G	1MHz, $V_R = 4.0\text{V}$	C_J	35	-	pF
	HER156G HER157G HER158G			20	-	pF
Reverse recovery time	HER151G HER152G HER153G HER154G HER155G	$I_F = 0.5\text{A}, I_R = 1.0\text{A},$ $t_{rr} = 0.25\text{A}$	t_{rr}	-	50	ns
	HER156G HER157G HER158G			-	75	ns

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
HER15xG	DO-204AC (DO-15)	3,500 / Tape & Reel
HER15xG A0G	DO-204AC (DO-15)	1,500 / Ammo box
HER15xGH	DO-204AC (DO-15)	3,500 / Tape & Reel
HER15xGHA0G	DO-204AC (DO-15)	1,500 / Ammo box

Notes:

1. "x" defines voltage from 50V (HER151G) to 1000V (HER158G)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

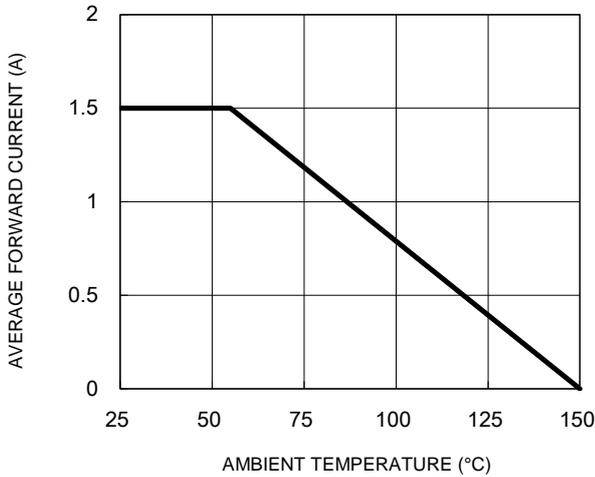


Fig.2 Typical Junction Capacitance

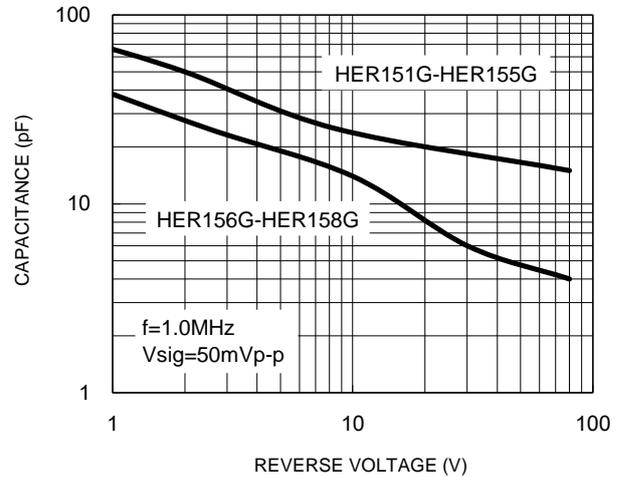


Fig.3 Typical Reverse Characteristics

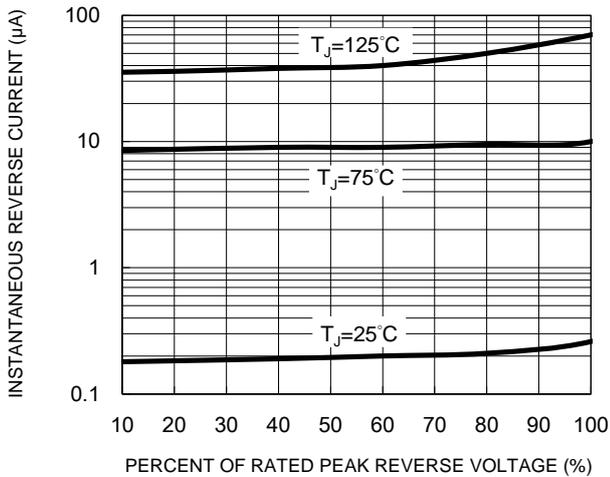


Fig.4 Typical Forward Characteristics

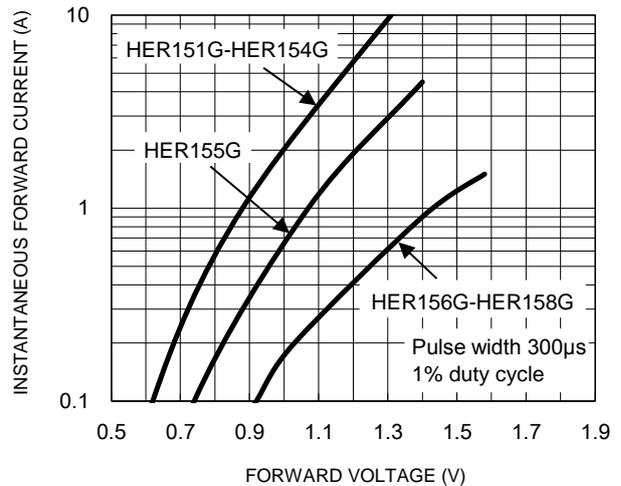
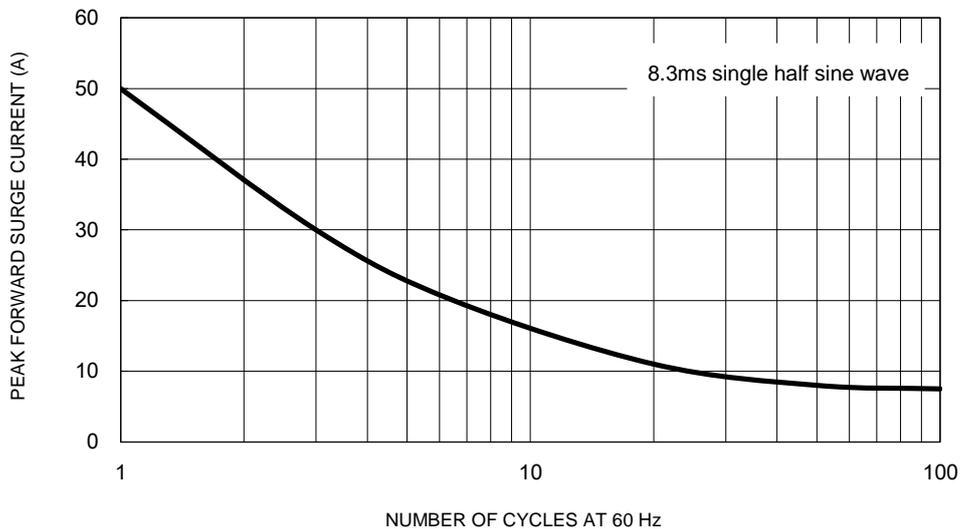


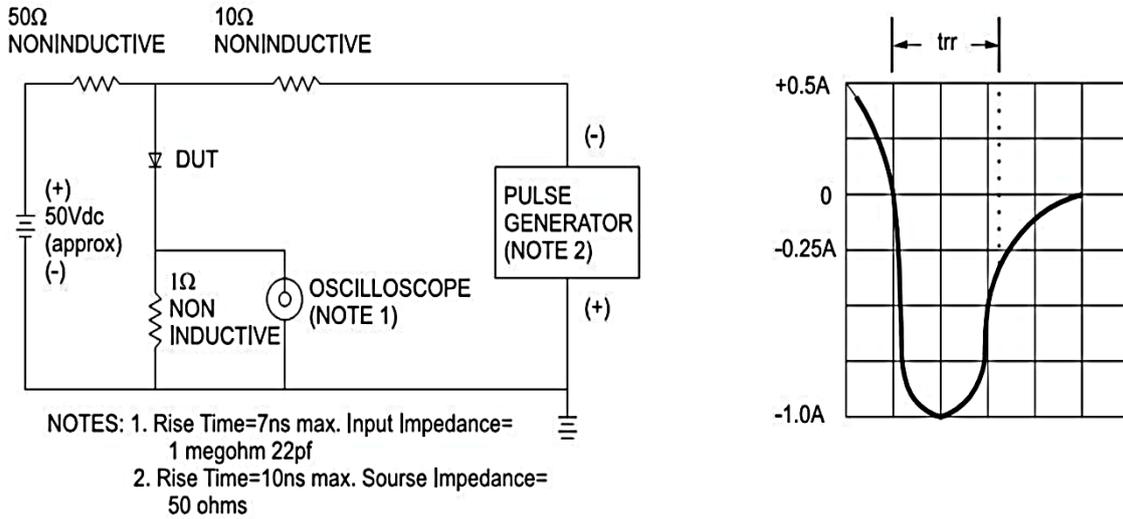
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

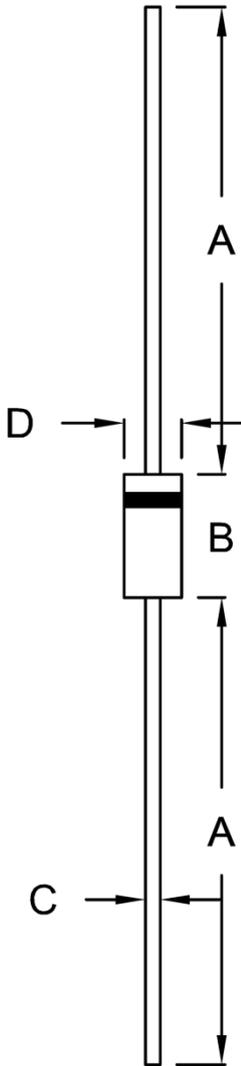
(T_A = 25°C unless otherwise noted)

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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