8A, 600V Fast Recovery Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- High surge current capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

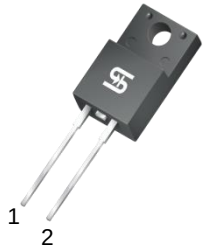
- DC to DC converter
- Switching mode converters and inverters
- Lighting application
- Snubber
- Freewheeling application

MECHANICAL DATA

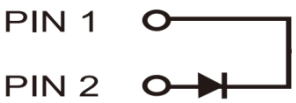
- Case: ITO-220AC
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.67g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	8	A
V_{RRM}	600	V
I_{FSM}	250	A
$T_{J\ MAX}$	150	°C
Package	ITO-220AC	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



ITO-220AC



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**FRAF8JG**	**UNIT**
Marking code on the device			FRAF8JG	
Repetitive peak reverse voltage		V_{RRM}	600	V
Reverse voltage, total rms value		$V_{R(RMS)}$	420	V
Forward current		I_F	8	A
Surge peak forward current single half sine-wave superimposed on rated load	t = 8.3ms	I_{FSM}	250	A
	t = 1.0ms		640	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-case thermal resistance	$R_{\Theta JC}$	2.2	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	9.0	°C/W
Junction-to-lead thermal resistance	$R_{\Theta JL}$	4.8	°C/W

Thermal Performance Note: Units mounted on heatsink 4"x 6"x 0.25" Al-plate

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 4A, T_J = 25°C	V_F	0.96	-	V
	I_F = 8A, T_J = 25°C		1.05	1.3	V
	I_F = 4A, T_J = 125°C		0.80	-	V
	I_F = 8A, T_J = 125°C		0.90	-	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	5	μA
	T_J = 125°C		10	-	μA
Junction capacitance	1MHz, V_R = 4.0V	C_J	54	-	pF
Reverse recovery time	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	-	200	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
FRAF8JG	ITO-220AC	50 / Tube
FRAF8JGH	ITO-220AC	50 / Tube

Notes:

1. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

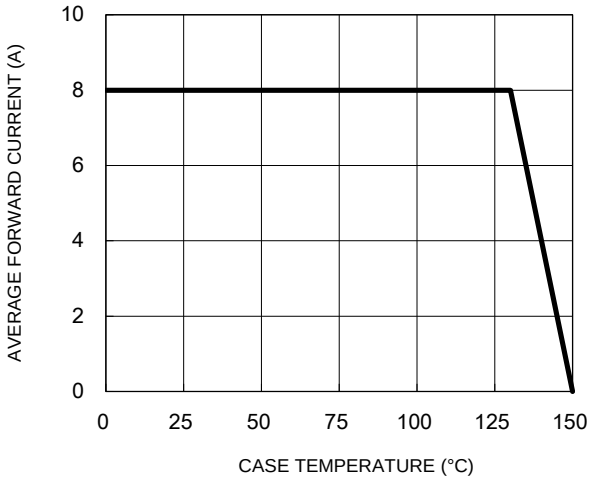


Fig.2 Typical Junction Capacitance

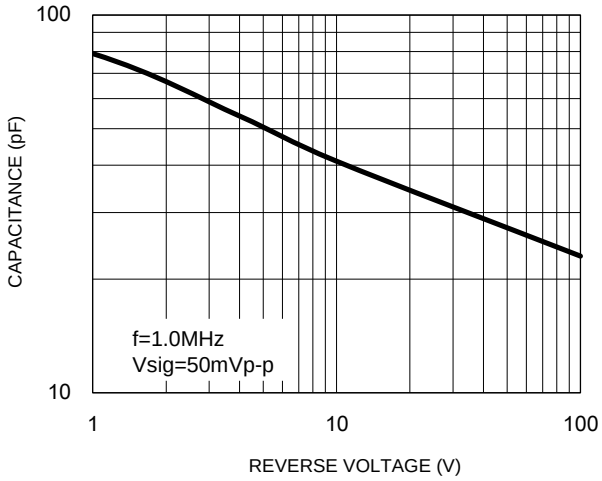


Fig.3 Typical Reverse Characteristics

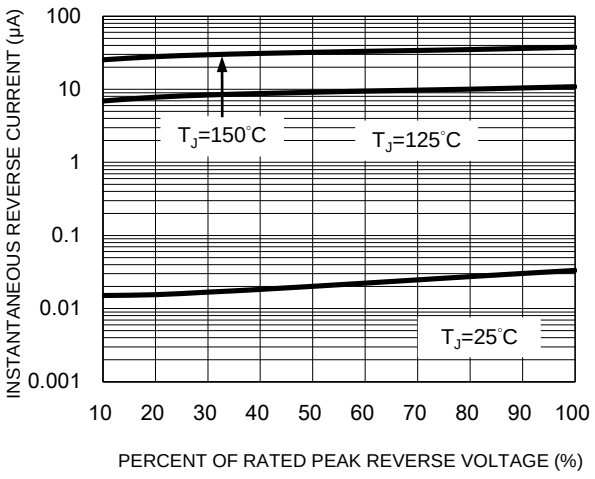


Fig.4 Typical Forward Characteristics

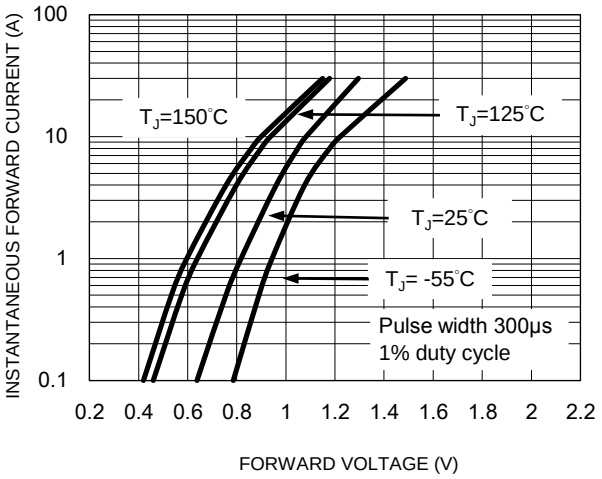
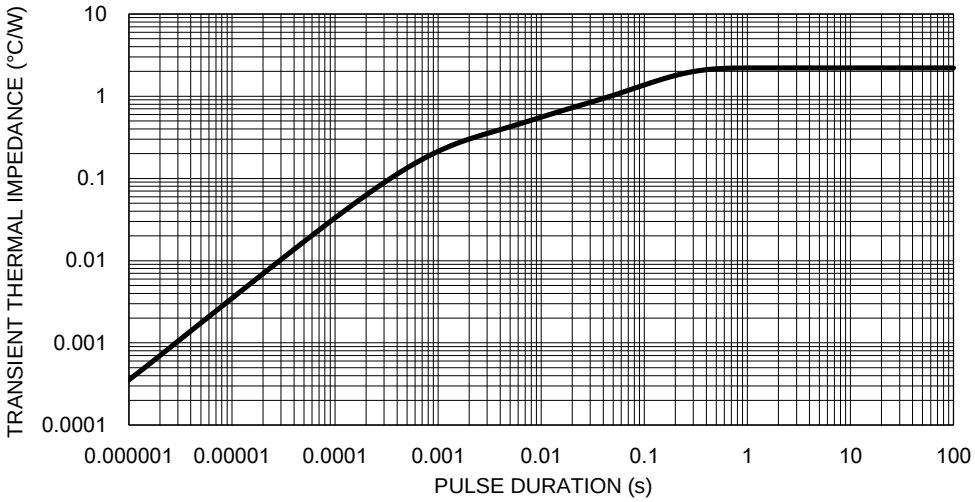
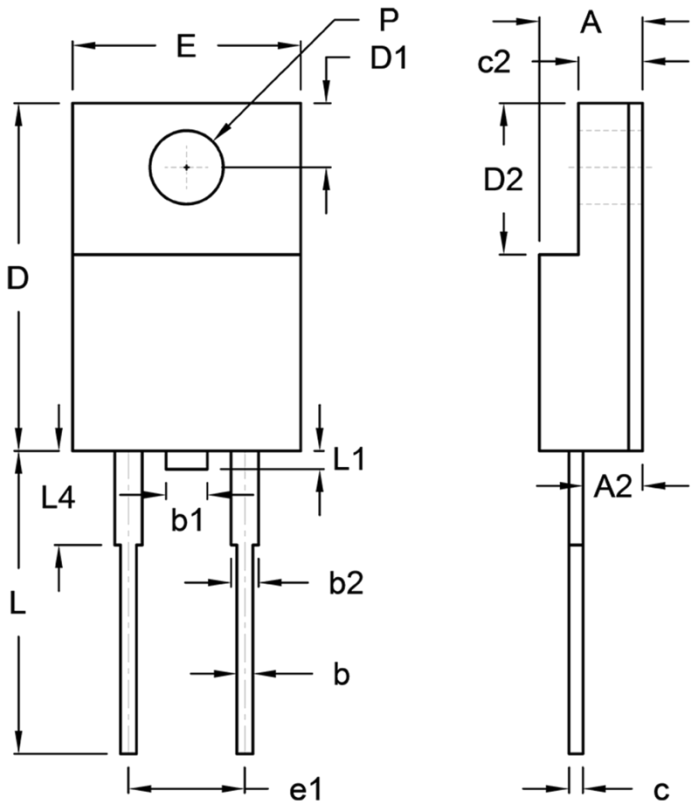


Fig.5 Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS

ITO-220AC



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A2	2.30	2.90	0.091	0.114
b	0.50	0.90	0.020	0.035
b1	-	1.80	-	0.071
b2	0.95	1.45	0.037	0.057
c	0.46	0.76	0.018	0.030
c2	2.50	3.10	0.098	0.114
D	14.80	15.50	0.583	0.610
D1	2.40	3.20	0.094	0.126
D2	6.30	6.90	0.248	0.272
E	9.60	10.30	0.378	0.406
e1	4.95	5.20	0.195	0.205
L	12.60	13.80	0.496	0.543
L1	0.00	1.60	0.000	0.063
L4	-	4.10	-	0.161
P	3.00	3.40	0.118	0.134

MARKING DIAGRAM

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

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