10A, 200 - 600V Isolated Glass Passivated Super Fast Rectifier

FEATURES

- High efficiency
- High current capavility
- High reliability
- High surge current capability
- Low power loss.
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	2 x 5	A
V_{RRM}	200 - 600	V
$T_{J\ MAX}$	150	°C
Package	ITO-220AB	
Configuration	Dual Die	

APPLICATIONS

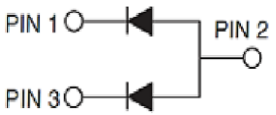
- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer,automotive and telecommunication.

MECHANICAL DATA

- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Part no. with suffix “H” means AEC-Q101 qualified
- Meet JESD 201 class 2 whisker test,
- Polarity: As marked
- Mounting torque: 0.56 N-m maximum
- Weight: 1.7 g (approximately)

Pb-Free RoHS COMPLIANT HALOGEN FREE

ITO-220AB



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)							
PARAMETER		**SYMBOL**	**SFF10L 04GA**	**SFF10L 05GA**	**SFF10L 06GA**	**SFF10L 08GA**	**UNIT**
Marking code on the device			SFF10L04GA	SFF10L05GA	SFF10L06GA	SFF10L08GA	
Repetitive peak reverse voltage		V_{RRM}	200	300	400	600	V
Reverse voltage, total rms value		$V_{R(RMS)}$	140	280	280	420	V
Forward current	Per device	$I_{F(AV)}$	10				A
	Per diode		5				
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode		I_{FSM}	125		80		A
Junction temperature		T_J	- 55 to +150				°C
Storage temperature		T_{STG}	- 55 to +150				°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Junction-to-lead thermal resistance	$R_{\Theta JL}$	2	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	9	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	3	°C/W

Thermal Performance Note: Units mounted on recommended PCB (2"x3"x0.25" Al -plate)

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	SFF10L04GA	I_F = 5A, T_J = 25°C	V_F	0.94	0.98	V
		I_F = 5A, T_J = 125°C		0.82	0.90	V
	SFF10L05GA	I_F = 5A, T_J = 25°C		1.04	1.30	V
		I_F = 5A, T_J = 125°C		0.89	0.96	V
	SFF10L06GA	I_F = 5A, T_J = 25°C		1.05	1.30	V
		I_F = 5A, T_J = 125°C		0.92	1.00	V
	SFF10L08GA	I_F = 5A, T_J = 25°C		1.21	1.70	V
		I_F = 5A, T_J = 125°C		1.04	1.20	V
Reverse current @ rated V_R per diode (2)		T_J = 25°C	I_R	-	10	μA
		T_J = 125°C		-	400	μA
Junction capacitance	SFF10L04GA	1 MHz, V_R=4.0V	C_J	60	-	pF
	SFF10L05GA			50	-	pF
	SFF10L06GA					pF
	SFF10L08GA					pF
Reverse recovery time	SFF10L04GA	I_F=0.5A , I_R=1.0A I_{RR}=0.25A	t_{rr}	-	35	ns
	SFF10L05GA					
	SFF10L06GA					
	SFF10L08GA					

Notes:

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

ORDERING INFORMATION

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
SFF10L0xGA (Note 1, 2)	H	C0	G	ITO-220AB	50 / Tube

Notes:

1. "x" defines voltage from 200V (SFF10L04GA) to 600V (SFF10L08GA)
2. Whole series with green compound (halogen-free)

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SFF10L04GAHC0G	SFF10L04GA	H	C0	G	AEC-Q101 qualified Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig1. Forward Current Derating Curve

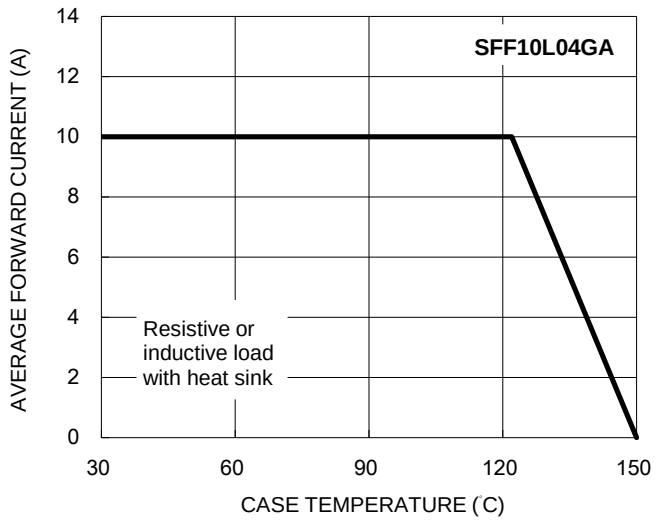


Fig2. Typical Junction Capacitance

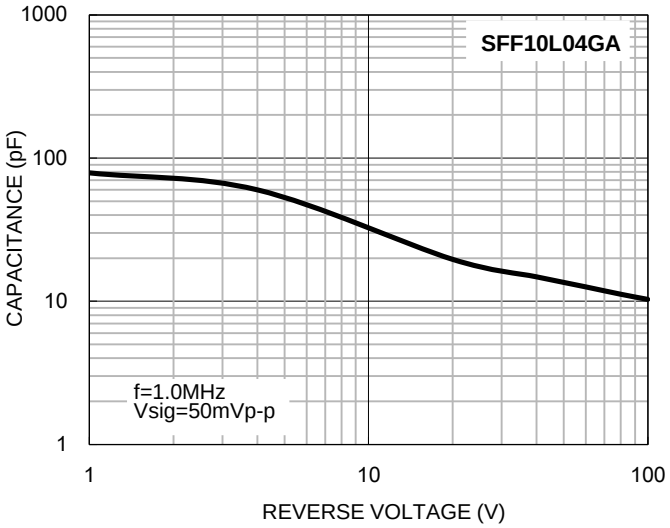


Fig3. Typical Reverse Characteristics

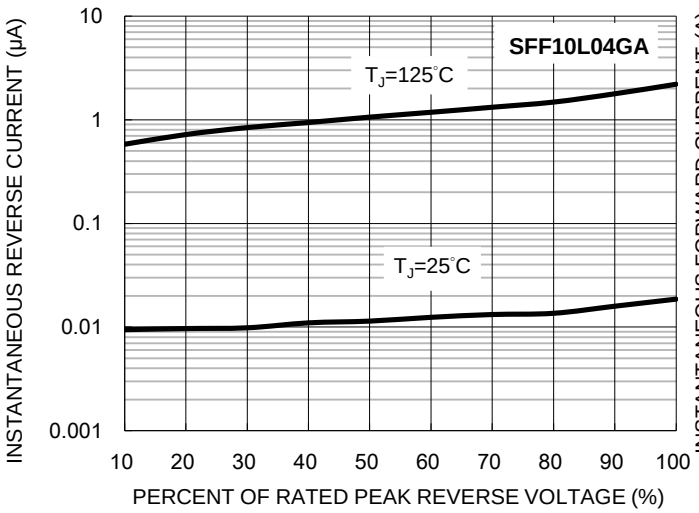
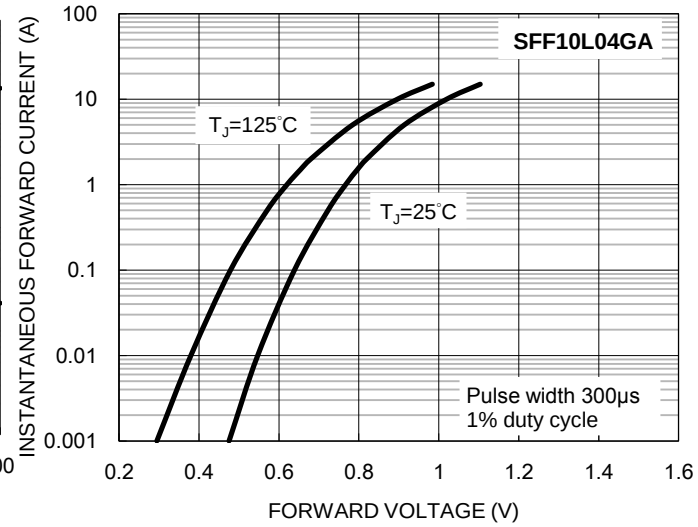


Fig4. Typical Forward Characteristics



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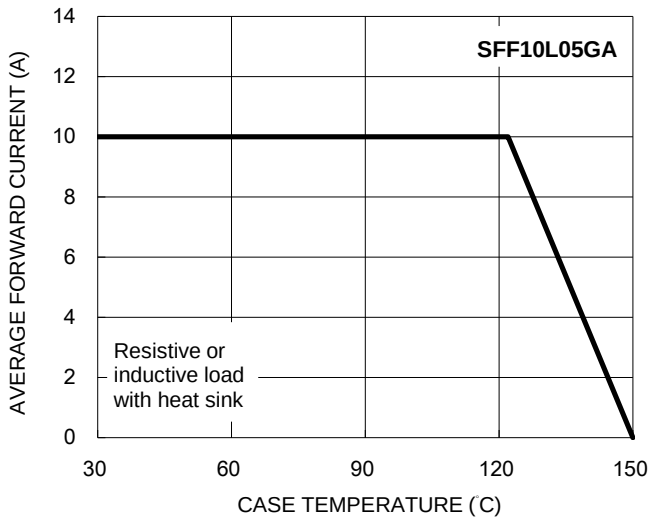


Fig2. Typical Junction Capacitance

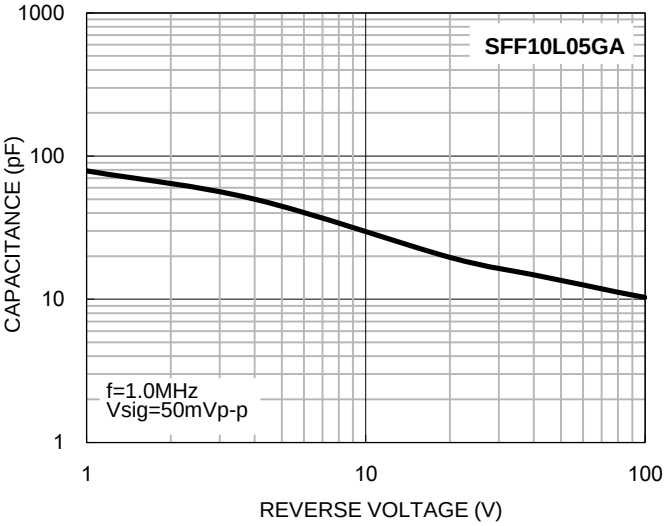


Fig3. Typical Reverse Characteristics

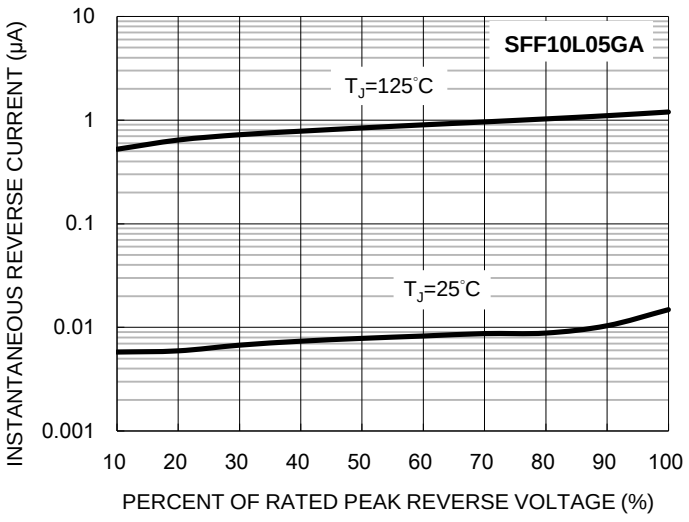
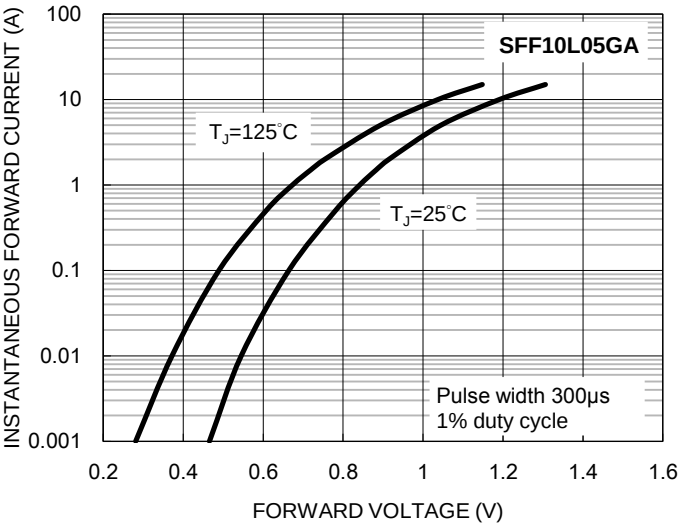


Fig4. Typical Forward Characteristics



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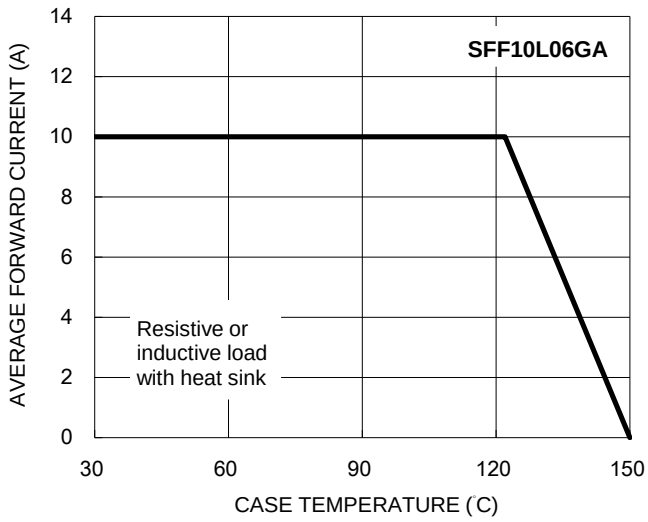


Fig2. Typical Junction Capacitance

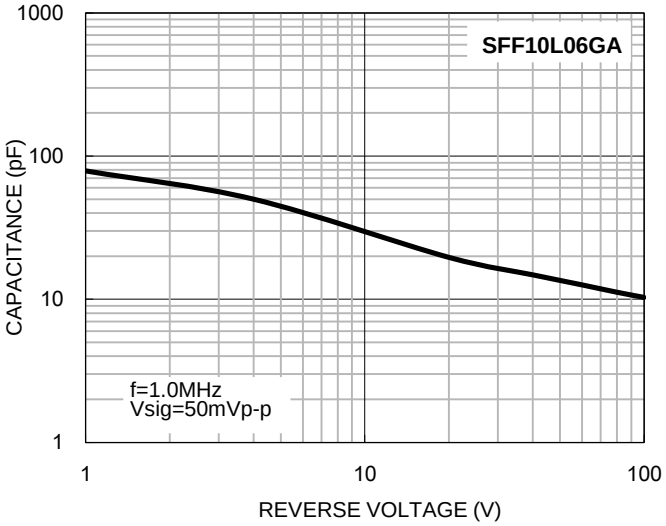


Fig3. Typical Reverse Characteristics

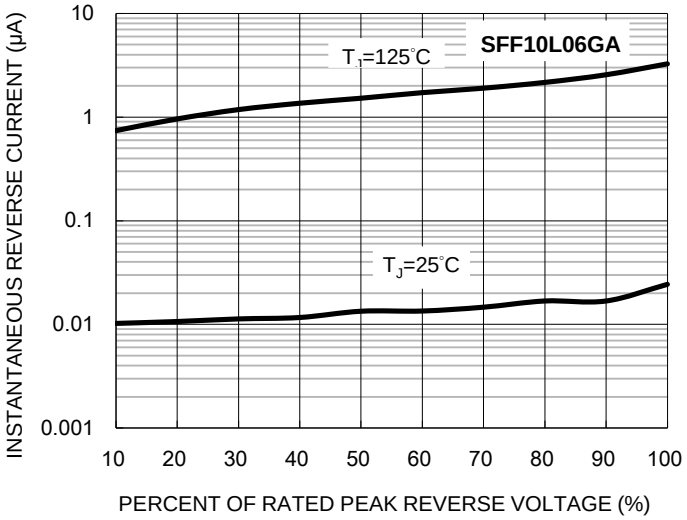
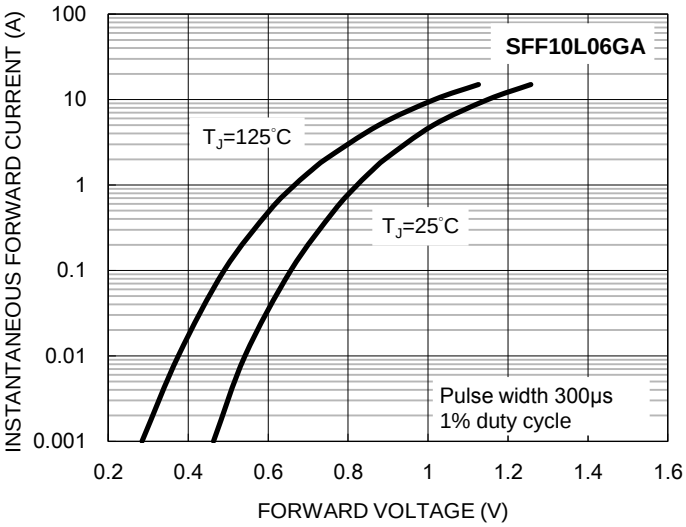


Fig4. Typical Forward Characteristics



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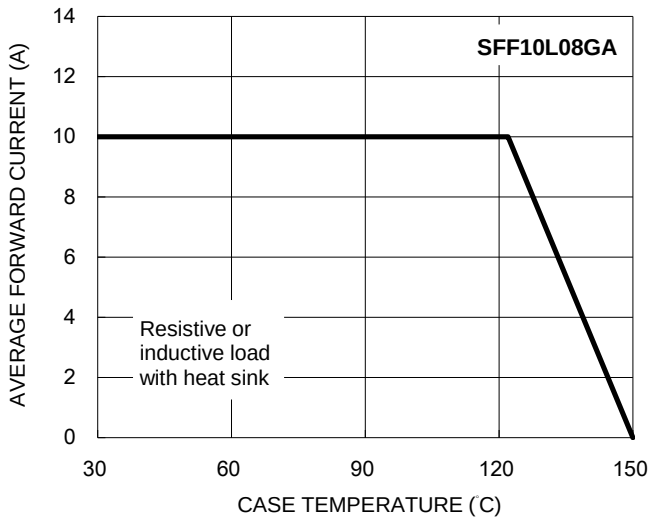
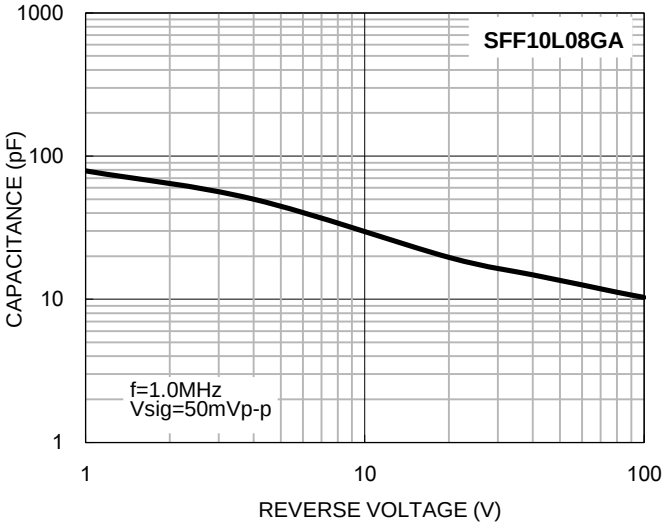


Fig2. Typical Junction Capacitance



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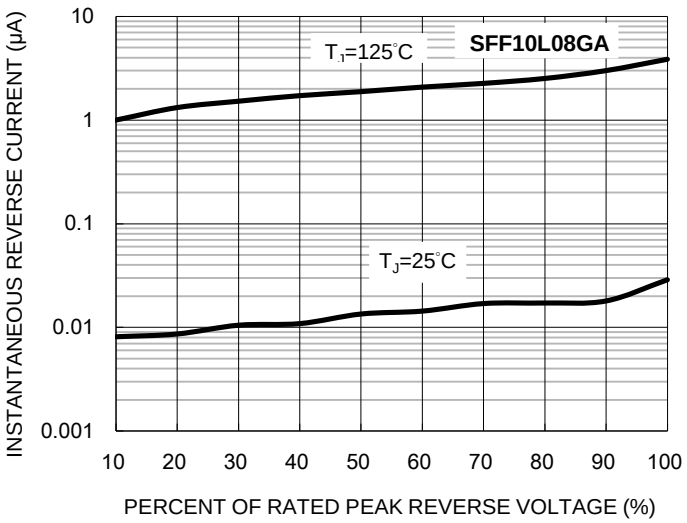

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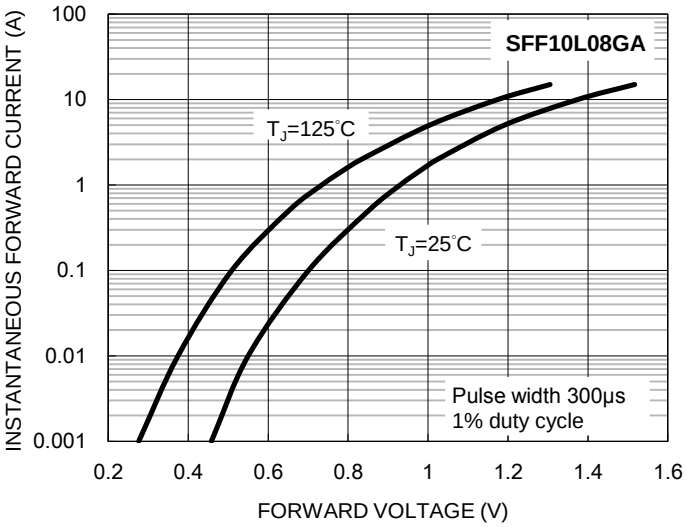
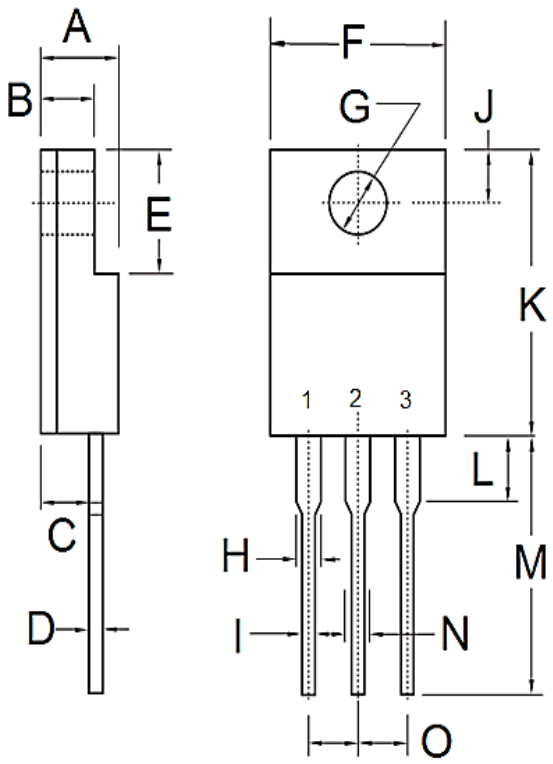


PACKAGE OUTLINE DIMENSIONS

ITO-220AB



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105

MARKING DIAGRAM

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

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