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## 10A, 35V - 200V Isolated Schottky Barrier Rectifiers

### FEATURES

- Low power loss, high efficiency
- Guard ring for over-voltage protection
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



### MECHANICAL DATA

**Case:** ITO-220AC

Molding compound: UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

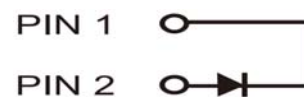
Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 0.56 Nm max.

**Weight:** 1.7 g (approximately)

ITO-220AC



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)										
PARAMETER	SYMBOL	MBRF 1035	MBRF 1045	MBRF 1050	MBRF 1060	MBRF 1090	MBRF 10100	MBRF 10150	MBRF 10200	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	90	100	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	24	31	35	42	63	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	90	100	150	200	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	10								A
Peak repetitive forward current (Rated V <sub>R</sub> , square wave, 20KHz)	I <sub>FRM</sub>	20								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150								A
Peak repetitive reverse surge current (Note 1)	I <sub>RRM</sub>	1	0.5						A	
Maximum instantaneous forward voltage (Note 2) I <sub>F</sub> =10A, T <sub>J</sub> =25°C I <sub>F</sub> =10A, T <sub>J</sub> =125°C	V <sub>F</sub>	0.70 0.57	0.80 0.70		0.85 0.71		1.05 -		V	
Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>	0.1								mA
		15	10		6		2			
Voltage rate of change (Rated V <sub>R</sub> )	dV/dt	10000								V/μs
Typical thermal resistance	R <sub>θJC</sub>	3							4	°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150								°C
Storage temperature range	T <sub>STG</sub>	- 55 to +175								°C

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle



ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
MBRF10xx (Note 1)	H	C0	G	ITO-220AC	50 / Tube

Note 1: "xx" defines voltage from 35V (MBRF1035) to 200V (MBRF10200)

\*: Optional available

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBRF1060HC0G	MBRF1060	H	C0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

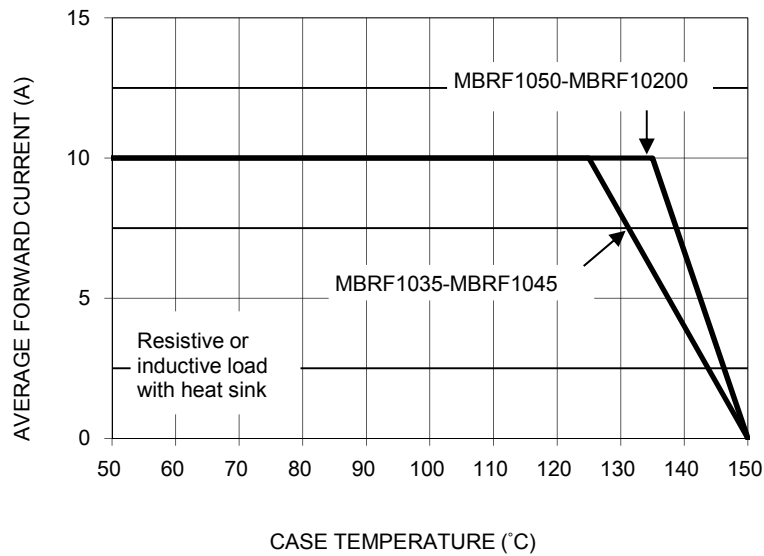


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

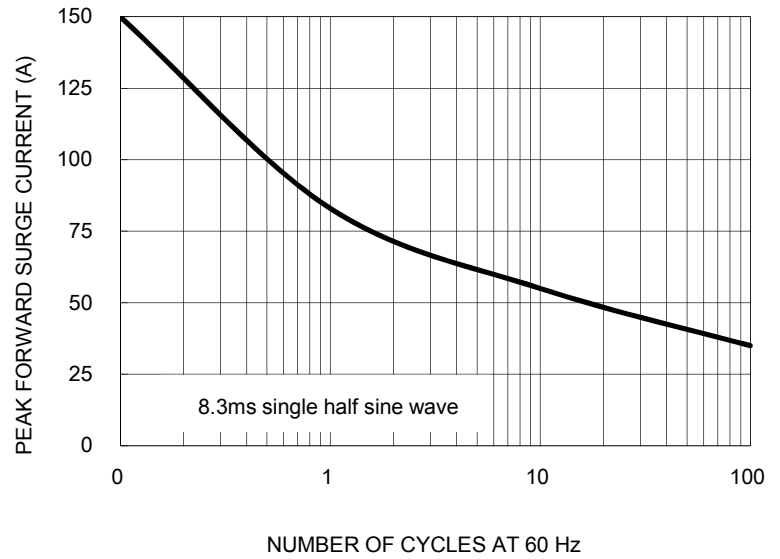


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

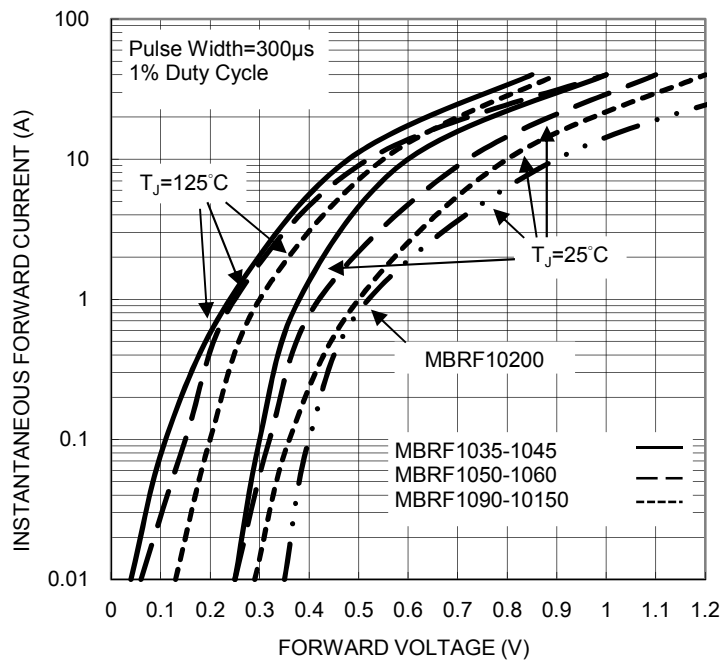


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

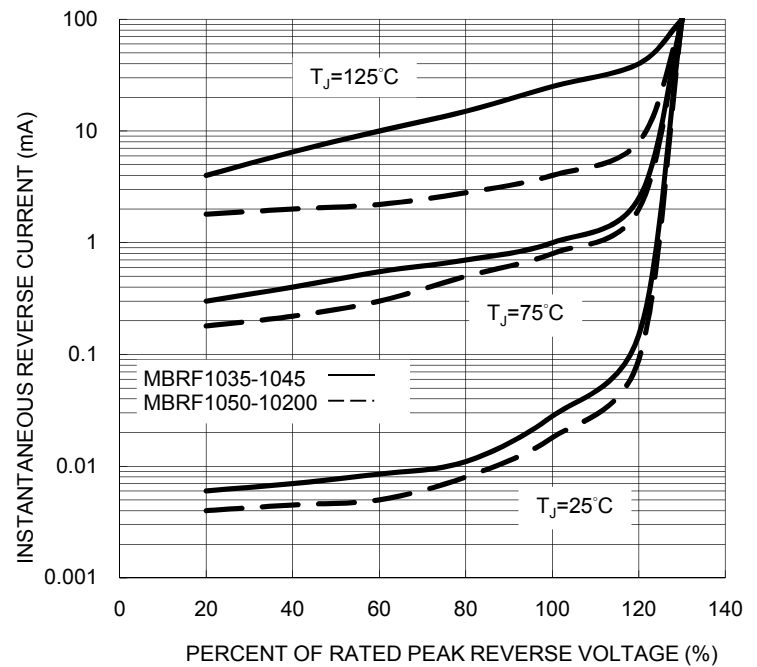


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

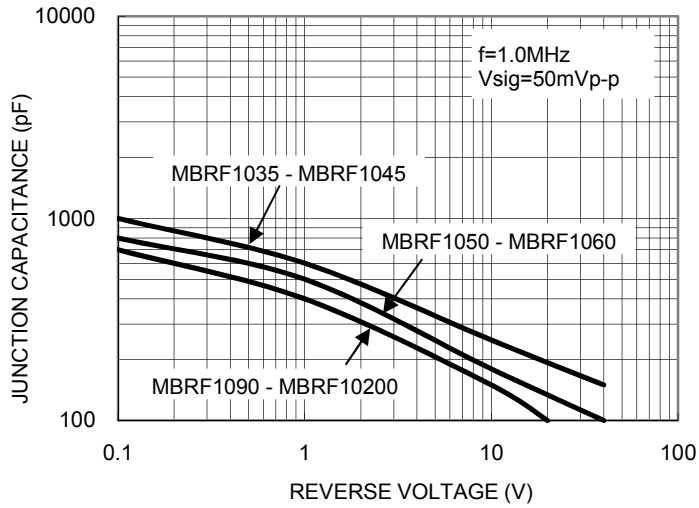
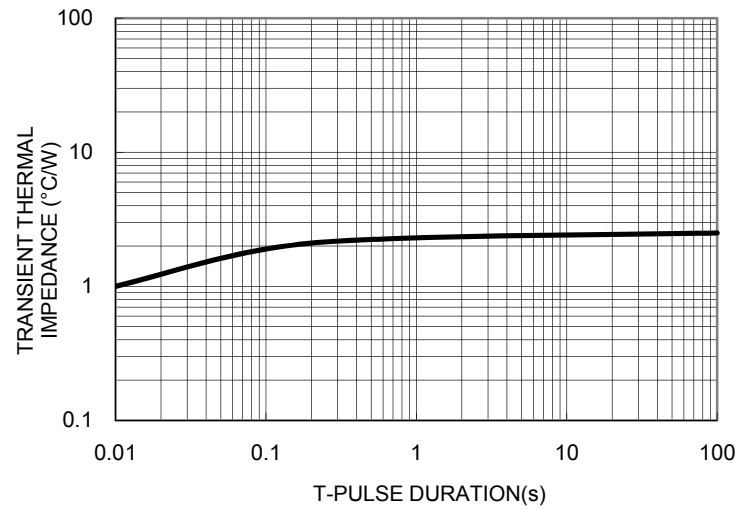
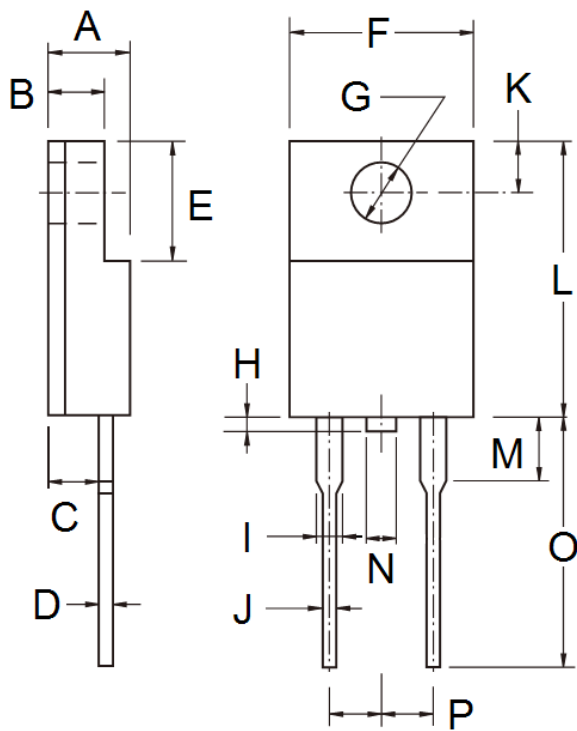


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

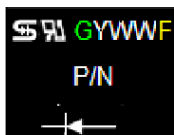


**PACKAGE OUTLINE DIMENSIONS**  
**ITO-220AC**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.10	0.098	0.122
C	2.30	2.90	0.091	0.114
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	0.00	1.60	0.000	0.063
I	0.95	1.45	0.037	0.057
J	0.50	0.90	0.020	0.035
K	2.40	3.20	0.094	0.126
L	14.80	15.50	0.583	0.610
M	-	4.10	-	0.161
N	-	1.80	-	0.071
O	12.60	13.80	0.496	0.543
P	4.95	5.20	0.195	0.205

**MARKING DIAGRAM**



- P/N = Specific Device Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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