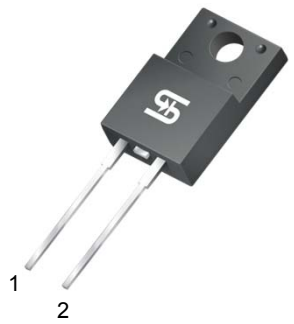
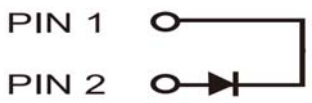
7A, 35V - 150V Isolated Schottky Barrier Rectifiers

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



ITO-220AC



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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	MBRF 735	MBRF 745	MBRF 750	MBRF 760	MBRF 790	MBRF 7100	MBRF 7150	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC blocking voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum average forward rectified current	$I_{F(AV)}$	7.5							A
Peak repetitive forward current (Rated V_R, Square wave, 20KHz)	I_{FRM}	15							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150							A
Peak repetitive reverse surge current (Note 1)	I_{RRM}	1.0		0.5					A
Maximum instantaneous forward voltage (Note 2)	V_F								V
I_F=7.5A, T_J=25°C		-		0.75		0.92		1.02	
I_F=7.5A, T_J=125°C		0.57		0.65		0.82		0.92	
I_F=15A, T_J=25°C		0.84		-		-		-	
I_F=15A, T_J=125°C		0.72		-		-		-	
Maximum reverse current @ rated V_R T_J=25°C	I_R	0.1							mA
Maximum reverse current @ rated V_R T_J=125°C	I_R	15		10		5			mA
Voltage rate of change (Rated V_R)	dV/dt	10000							V/μs
Typical thermal resistance	$R_{\theta JC}$	7							°C/W
Operating junction temperature range	T_J	- 55 to +150							°C
Storage temperature range	T_{STG}	- 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
MBRF7xx (Note 1)	H	C0	G	ITO-220AC	50 / Tube

Note 1: "xx" defines voltage from 35V (MBRF735) to 150V (MBRF7150)

*: Optional available

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBRF760HC0G	MBRF760	H	C0	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

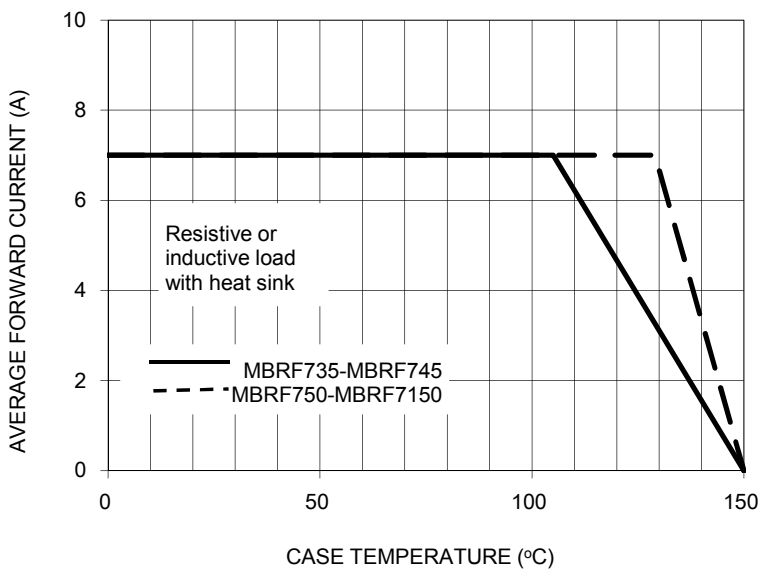


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

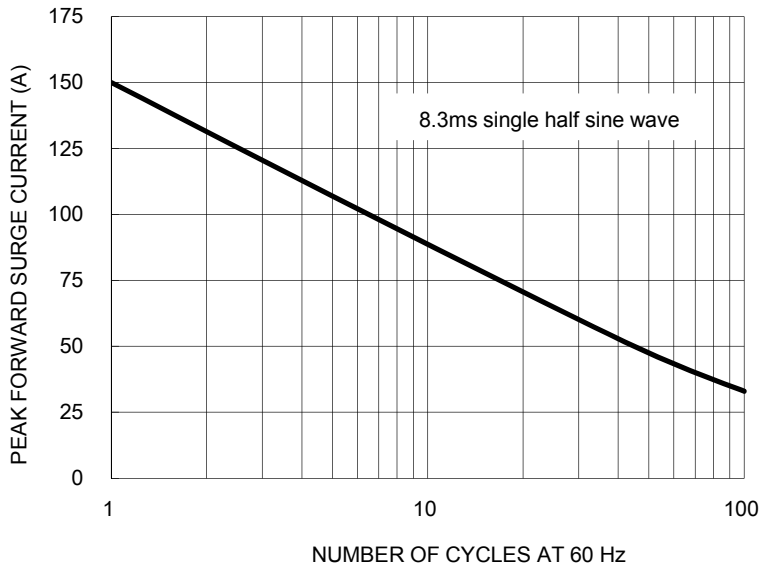


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

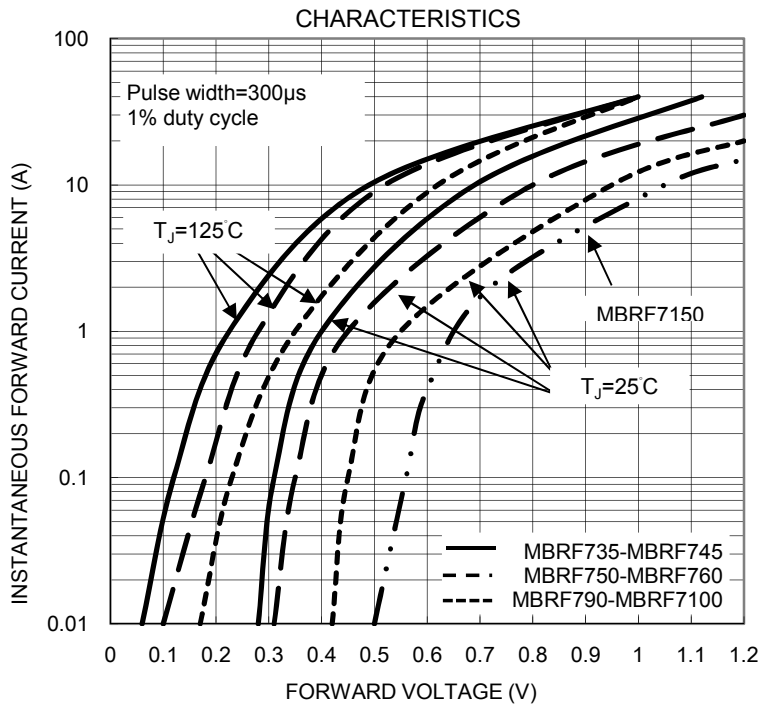


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

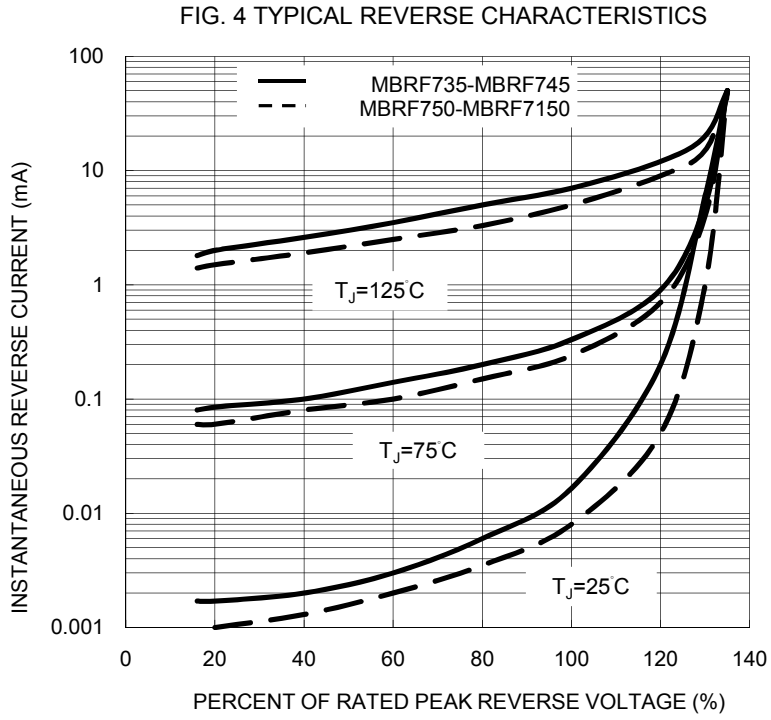


FIG. 5 TYPICAL JUNCTION CAPACITANCE

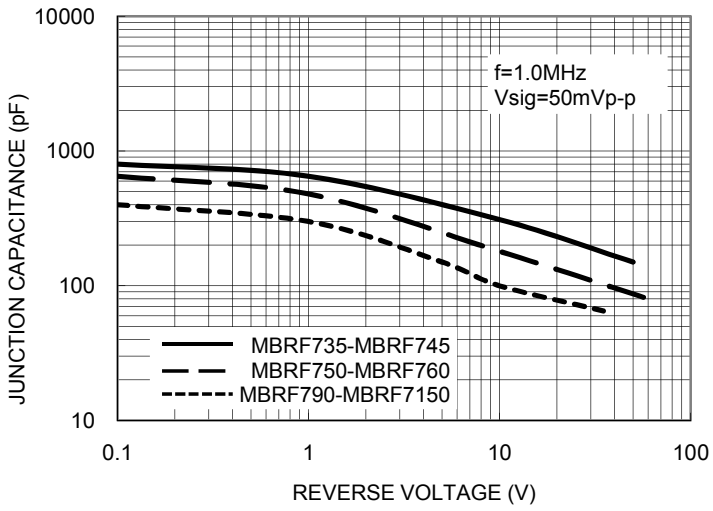
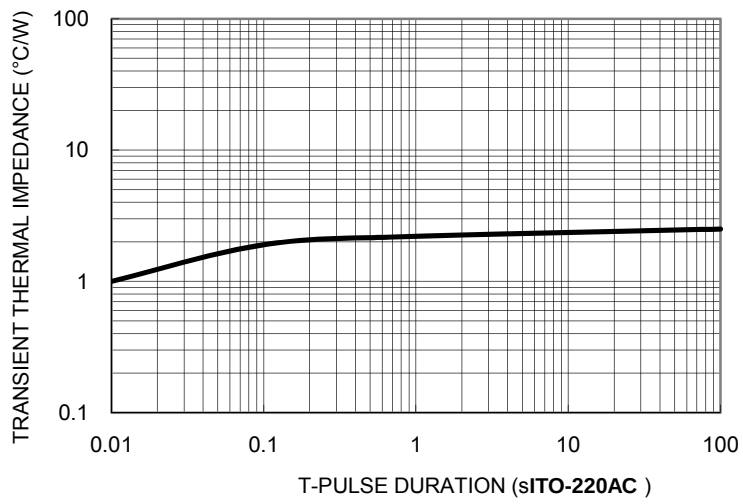
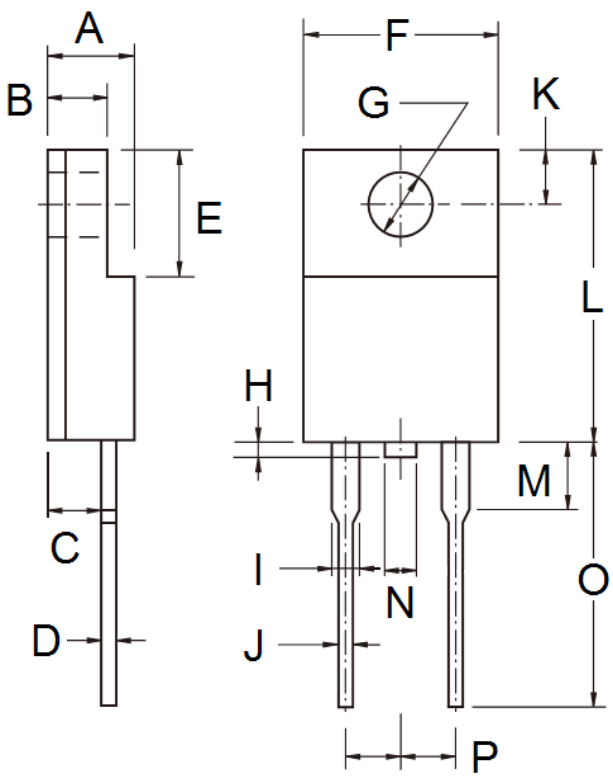


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS



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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