

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	MBRF 1035	MBRF 1045	MBRF 1050	MBRF 1060	MBRF 1090	MBRF 10100	MBRF 10150	MBRF 10200	UNIT
Critical rate of rise of off-state voltage	dv/dt	10,000								V/ $\mu\text{s}$
Junction temperature	$T_J$	-55 to +150								$^\circ\text{C}$
Storage temperature	$T_{\text{STG}}$	-55 to +175								$^\circ\text{C}$

**Notes:**

1.  $t_p = 2.0\mu\text{s}$ , 1.0KHz

<b>THERMAL PERFORMANCE</b>				
PARAMETER		SYMBOL	TYP	UNIT
Junction-to-case resistance	MBRF1035-10150	$R_{\theta\text{JC}}$	3	$^\circ\text{C/W}$
	MBRF10200		4	$^\circ\text{C/W}$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	MBRF1035 MBRF1045	$I_F = 10\text{A}$ , $T_J = 25^\circ\text{C}$	$V_F$	-	0.70	V
	MBRF1050 MBRF1060			-	0.80	V
	MBRF1090			-	0.85	V
	MBRF10100			-	1.05	V
	MBRF10150 MBRF10200			-	1.05	V
	MBRF1035 MBRF1045	$I_F = 10\text{A}$ , $T_J = 125^\circ\text{C}$		-	0.57	V
	MBRF1050 MBRF1060			-	0.70	V
	MBRF1090			-	0.71	V
	MBRF10100			-	0.71	V
	MBRF10150 MBRF10200			-	-	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	MBRF1035 MBRF1045 MBRF1050 MBRF1060 MBRF1090 MBRF10100 MBRF10150 MBRF10200	$T_J = 25^\circ\text{C}$	$I_R$	-	100	$\mu\text{A}$
	MBRF1035 MBRF1045	$T_J = 125^\circ\text{C}$		-	15	mA
	MBRF1050 MBRF1060			-	10	mA
	MBRF1090 MBRF10100			-	6	mA
	MBRF10150 MBRF10200			-	2	mA

**Notes:**

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

**ORDERING INFORMATION**

<b>ORDERING CODE<sup>(1)(2)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
MBRF10x	ITO-220AC	50 / Tube
MBRF10xH	ITO-220AC	50 / Tube

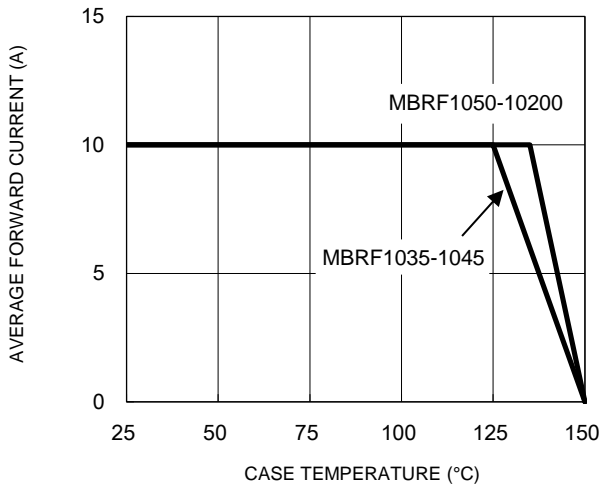
**Notes:**

1. "x" defines voltage from 35V(MBRF1035) to 200V(MBRF10200)
2. "H" means AEC-Q101 qualified

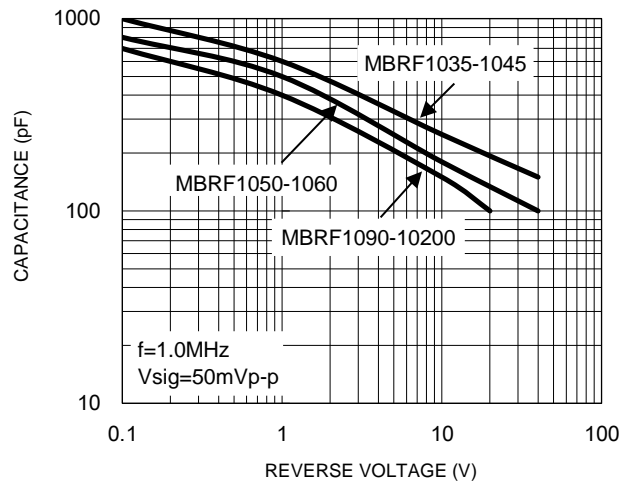
**CHARACTERISTICS CURVES**

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

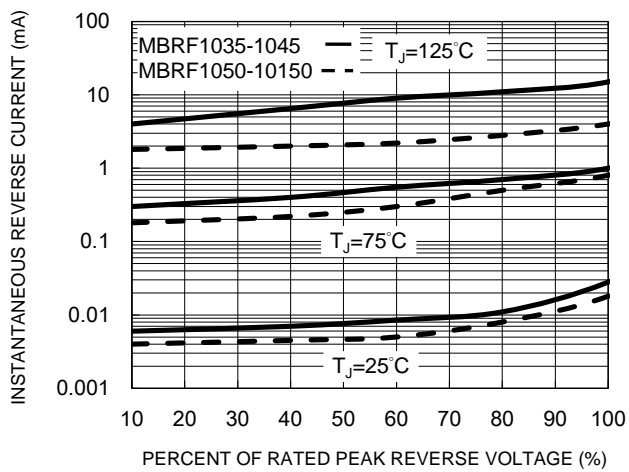
**Fig.1 Forward Current Derating Curve**



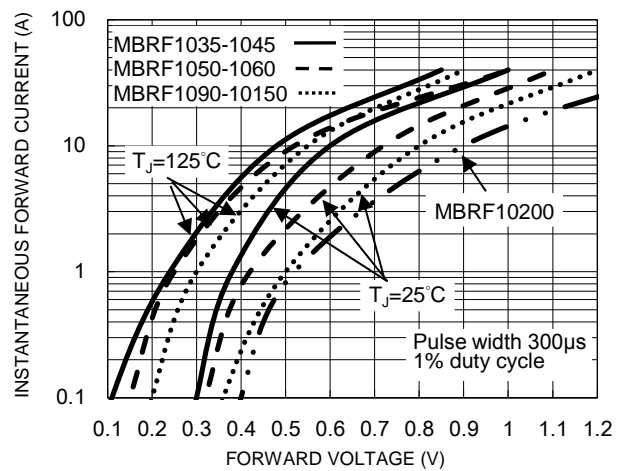
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



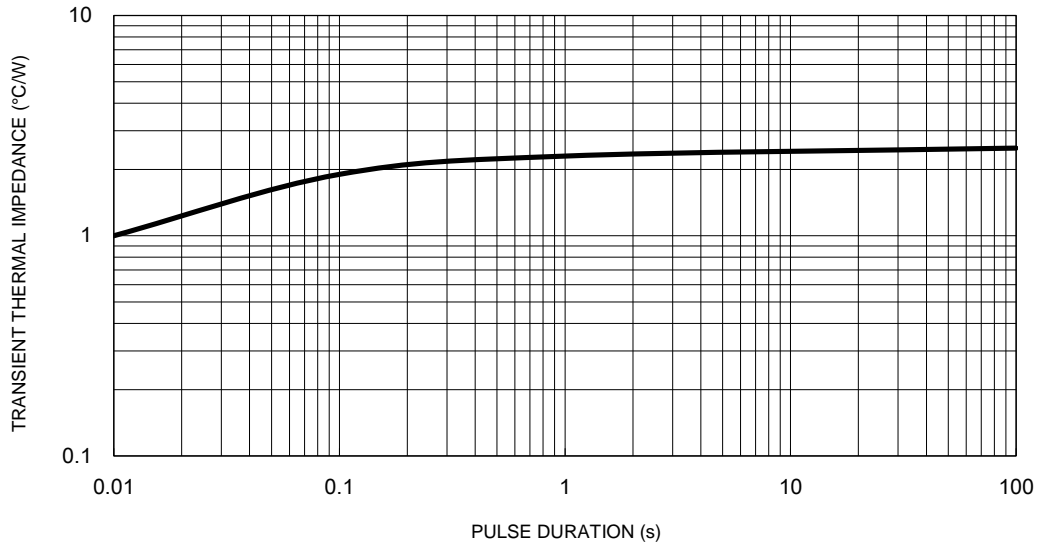
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



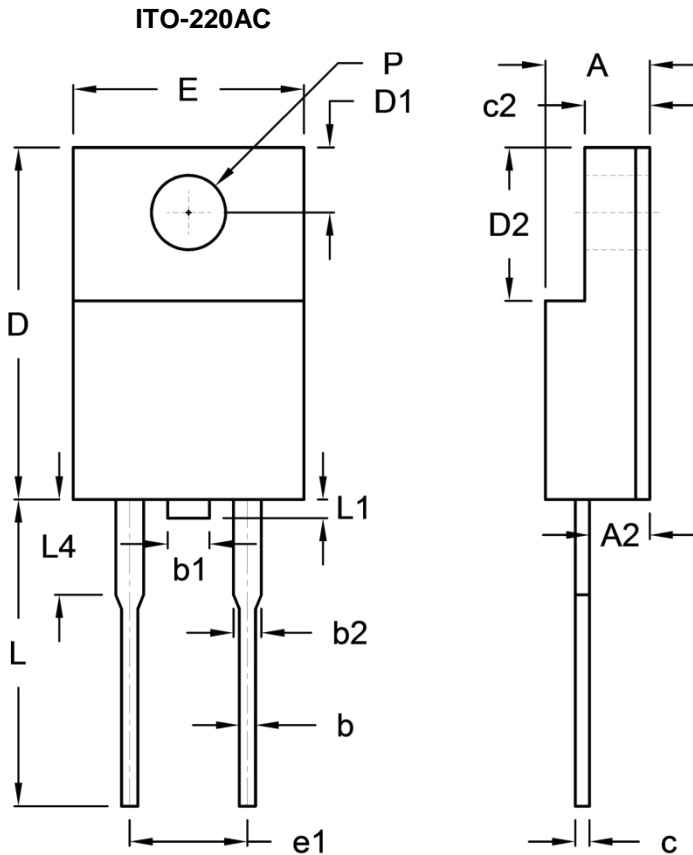
**CHARACTERISTICS CURVES**

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

**Fig.6 Typical Transient Thermal Characteristics**



**PACKAGE OUTLINE DIMENSIONS**



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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