

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)											
PARAMETER	SYMBOL	MBRF 2035 CT	MBRF 2045 CT	MBRF 2050 CT	MBRF 2060 CT	MBRF 2080 CT	MBRF 2090 CT	MBRF 20100 CT	MBRF 20150 CT	MBRF 20200 CT	UNIT
Peak repetitive forward current (Rated $V_R$ , Square wave, 20KHz)	$I_{FRM}$	20									A
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	$T_{STG}$	-55 to +150									$^\circ\text{C}$

**Notes:**

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

<b>THERMAL PERFORMANCE</b>				
PARAMETER		SYMBOL	TYP	UNIT
Junction-to-case thermal resistance	MBRF2035CT-2060CT	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$
	MBRF2080CT-20200CT		3.5	$^\circ\text{C/W}$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)									
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT			
Forward voltage per diode <sup>(1)</sup>	MBRF2035CT	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.80	V			
	MBRF2045CT								
	MBRF2050CT								
	MBRF2060CT								
	MBRF2080CT								
	MBRF2090CT								
	MBRF20100CT								
	MBRF20150CT	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$		-	0.95	V			
	MBRF20200CT								
	MBRF2035CT						-	0.84	V
	MBRF2045CT								
	MBRF2050CT								
	MBRF2060CT								
	MBRF2080CT								
MBRF2090CT									
MBRF20100CT	-	0.95	V						
MBRF20150CT									
MBRF20200CT				-	1.05	V			

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)									
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>			
Forward voltage per diode <sup>(1)</sup>	MBRF2035CT MBRF2045CT	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$	$V_F$	-	0.57	V			
	MBRF2050CT MBRF2060CT			-	0.70	V			
	MBRF2080CT			-	0.65	V			
	MBRF2090CT MBRF20100CT			-	0.75	V			
	MBRF20150CT MBRF20200CT			-	0.85	V			
	MBRF2035CT MBRF2045CT			$I_F = 20\text{A}, T_J = 125^\circ\text{C}$	-	0.72	V		
	MBRF2050CT MBRF2060CT				-	0.85	V		
	MBRF2080CT	-			0.75	V			
	MBRF2090CT MBRF20100CT	-			0.85	V			
	MBRF20150CT MBRF20200CT	-			0.95	V			
	Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	MBRF2035CT MBRF2045CT MBRF2050CT MBRF2060CT MBRF2080CT MBRF2090CT MBRF20100CT MBRF20150CT MBRF20200CT			$T_J = 25^\circ\text{C}$	$I_R$	-	100	$\mu\text{A}$
		MBRF2035CT MBRF2045CT			$T_J = 125^\circ\text{C}$		-	15	mA
		MBRF2050CT MBRF2060CT		-			10	mA	
		MBRF2080CT		-			30	mA	
MBRF2090CT MBRF20100CT		-	5	mA					
MBRF20150CT MBRF20200CT		-	2	mA					

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)(2)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
MBRF20xCT	ITO-220AB	50 / Tube
MBRF20xCTH	ITO-220AB	50 / Tube

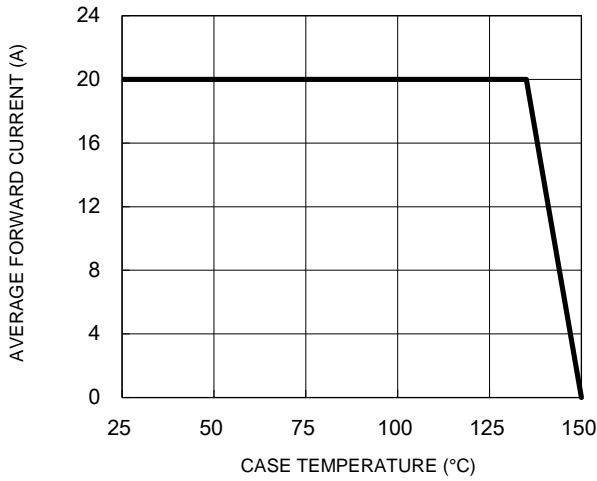
**Notes:**

1. "x" defines voltage from 35V(MBRF2035CT) to 200V(MBRF20200CT)
2. "H" means AEC-Q101 qualified

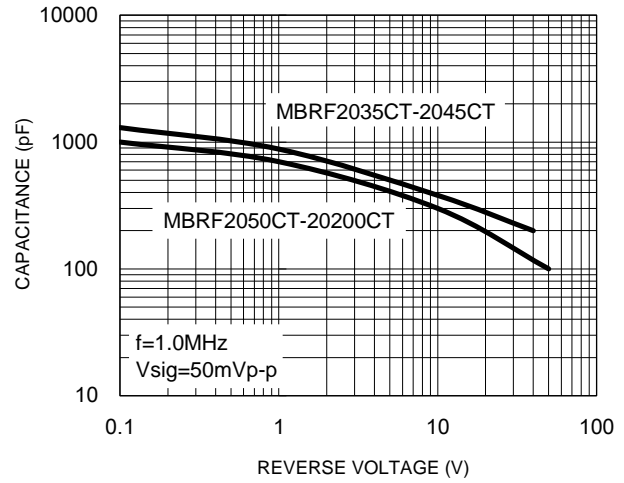
**CHARACTERISTICS CURVES**

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

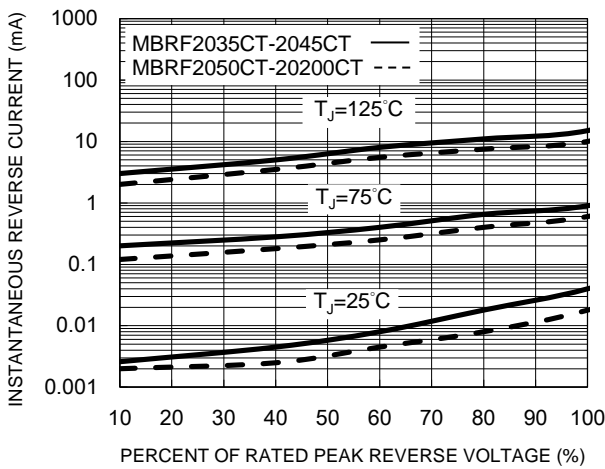
**Fig.1 Forward Current Derating Curve**



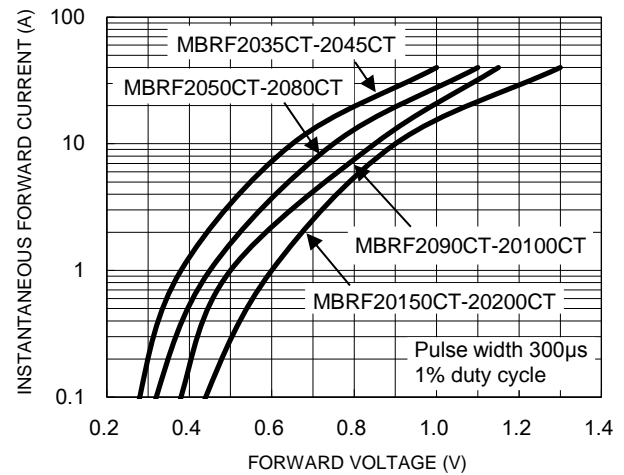
**Fig.2 Typical Junction Capacitance**



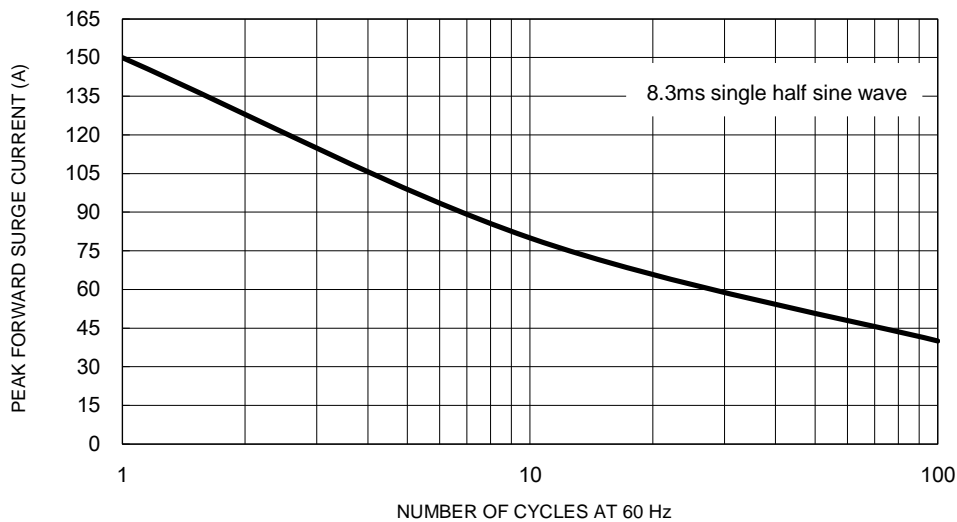
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



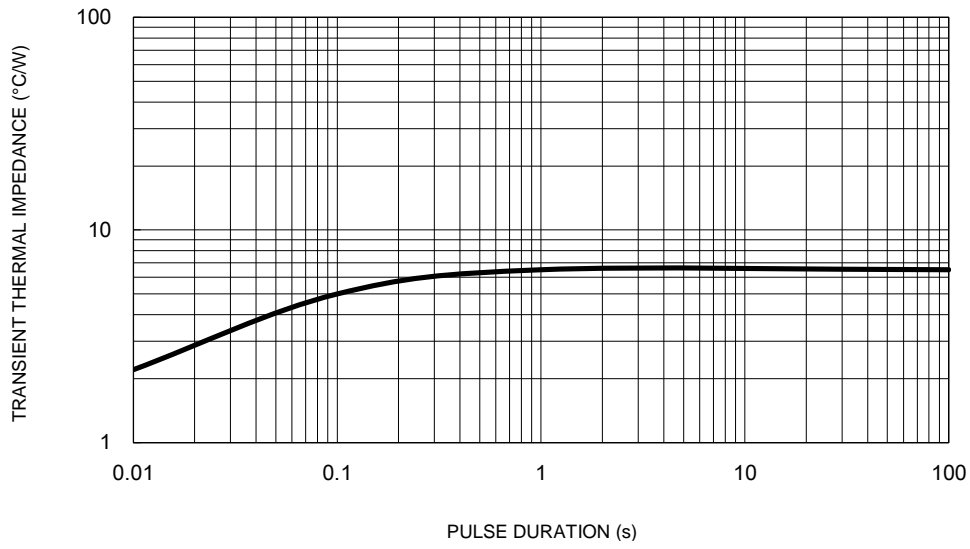
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



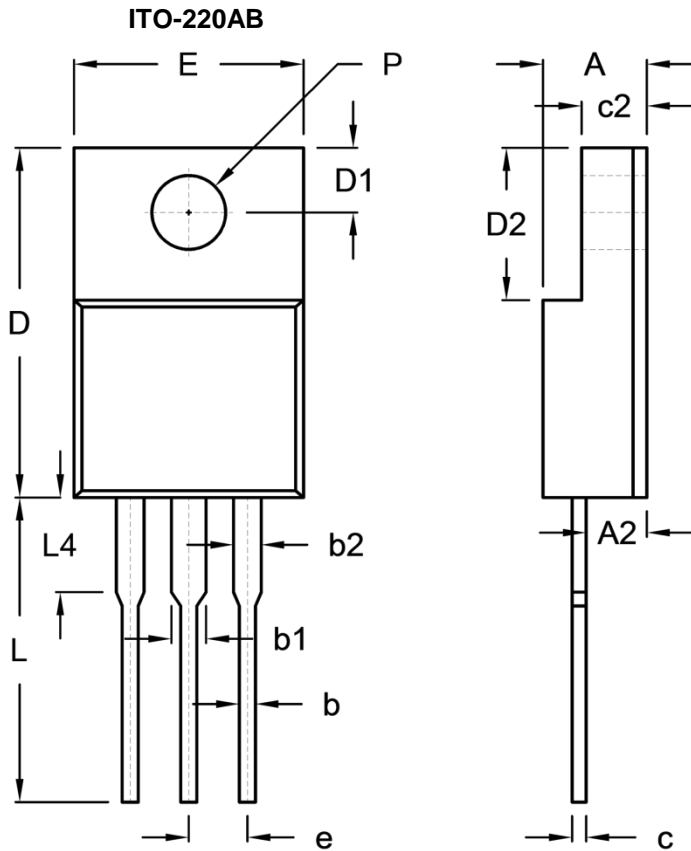
**CHARACTERISTICS CURVES**

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

**Fig.6 Typical Transient Thermal Impedance**



**PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A2	2.30	2.96	0.091	0.117
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	3.16	0.098	0.124
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
e	2.41	2.67	0.095	0.105
L	12.60	13.80	0.496	0.543
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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