

**ELECTRICAL CHARACTERISTICS** ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MBR745	MBR760	UNIT
Maximum instantaneous forward voltage	$V_F^{(1)}$	$I_F = 7.5\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$	-	0.75	V
		$I_F = 7.5\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$	0.57	0.65	
		$I_F = 15\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$	0.84	-	
		$I_F = 15\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$	0.72	-	
Maximum reverse current at DC blocking voltage	$I_R^{(2)}$	Rated V_R	$T_C = 25\text{ }^{\circ}\text{C}$	0.5	mA
			$T_C = 125\text{ }^{\circ}\text{C}$	50	

Notes(1) Pulse test: 300 μs pulse width, 1 % duty cycle(2) Pulse test: pulse width $\leq 40\text{ ms}$ **THERMAL CHARACTERISTICS** ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MBR	MBRF	MBRB	UNIT
Typical thermal resistance from junction to case	$R_{\theta JC}$	3.0	5.0	3.0	$^{\circ}\text{C/W}$

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AC	MBR745-E3/45	1.80	45	50/tube	Tube
ITO-220AC	MBRF745-E3/45	1.94	45	50/tube	Tube
TO-263AB	MBRB745-E3/45	1.33	45	50/tube	Tube
TO-263AB	MBRB745-E3/81	1.33	81	800/reel	Tape and reel
TO-220AC	MBR745HE3/45 ⁽¹⁾	1.80	45	50/tube	Tube
ITO-220AC	MBRF745HE3/45 ⁽¹⁾	1.94	45	50/tube	Tube
TO-263AB	MBRB745HE3/45 ⁽¹⁾	1.33	45	50/tube	Tube
TO-263AB	MBRB745HE3/81 ⁽¹⁾	1.33	81	800/reel	Tape and reel
TO-263AB	MBRB745HE3_A/P ⁽¹⁾	1.33	P	50/tube	Tube
TO-263AB	MBRB745HE3_A/I ⁽¹⁾	1.33	I	800/reel	Tape and reel

Note

(1) AEC-Q101 qualified



RATINGS AND CHARACTERISTICS CURVES

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

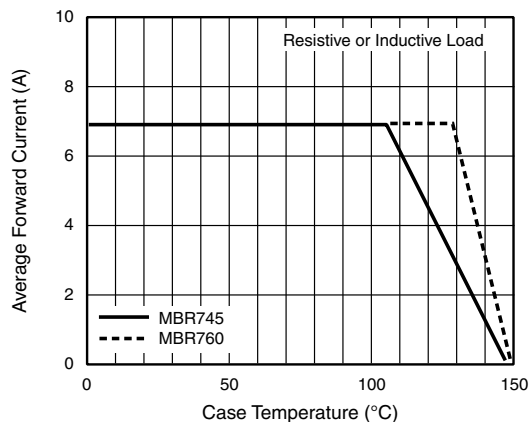


Fig. 1 - Forward Current Derating Curve

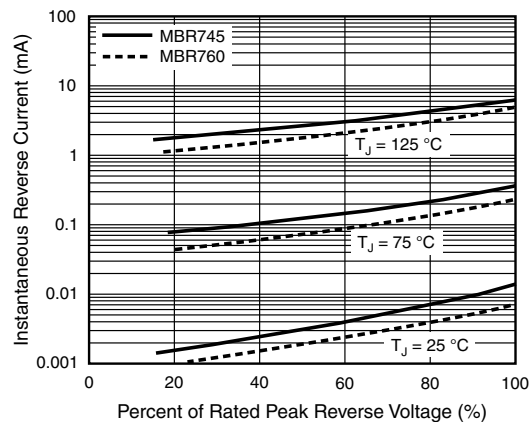


Fig. 4 - Typical Reverse Characteristics

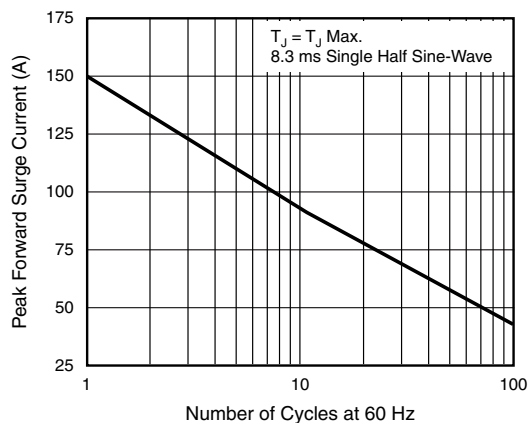


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

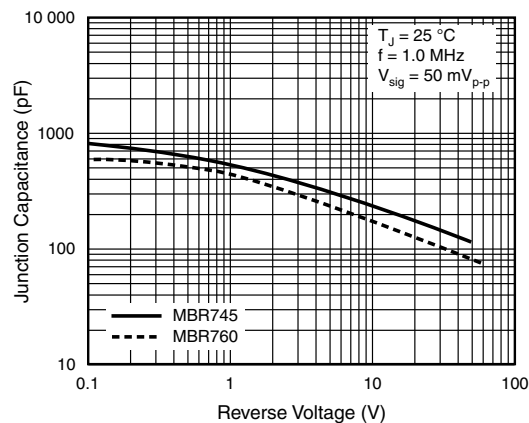


Fig. 5 - Typical Junction Capacitance

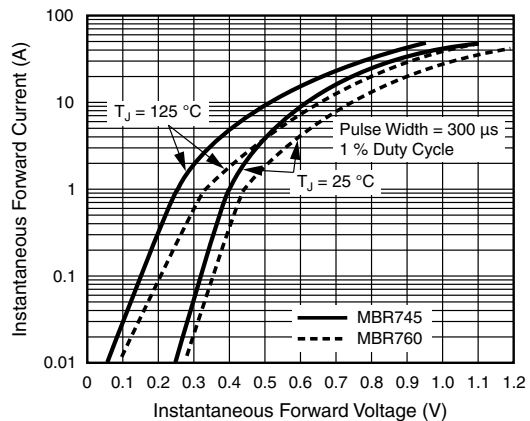


Fig. 3 - Typical Instantaneous Forward Characteristics

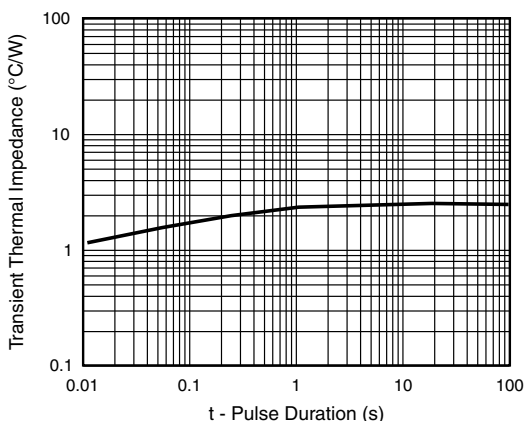
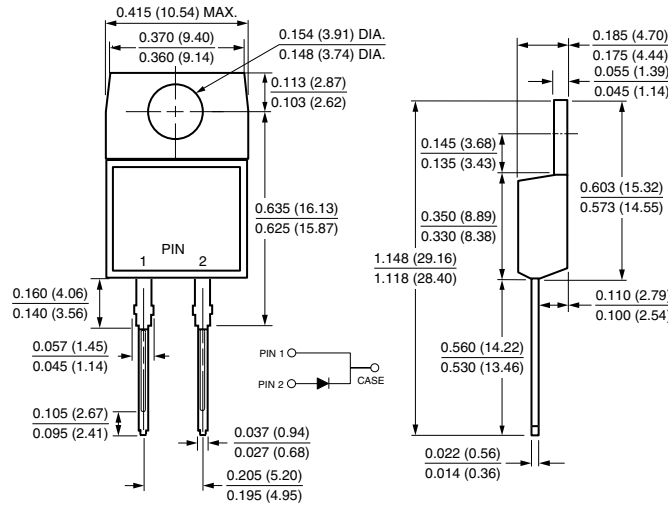


Fig. 6 - Typical Transient Thermal Impedance

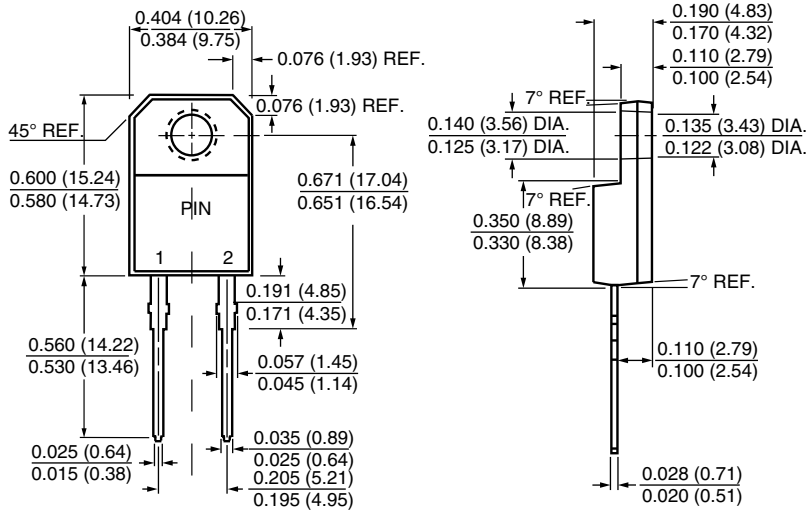


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

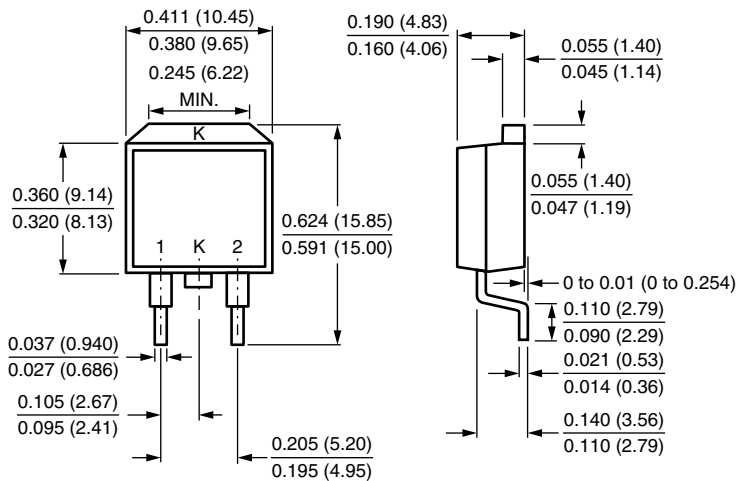
TO-220AC



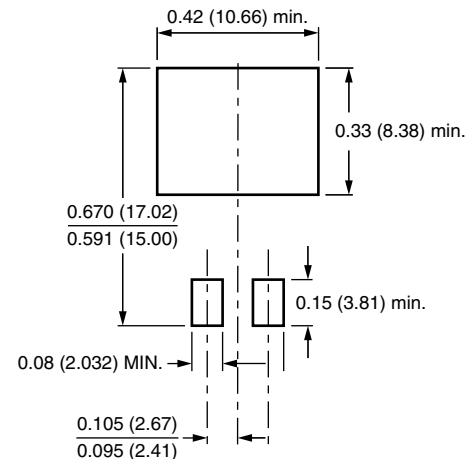
ITO-220AC



D²PAK (TO-263AB)



Mounting Pad Layout





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