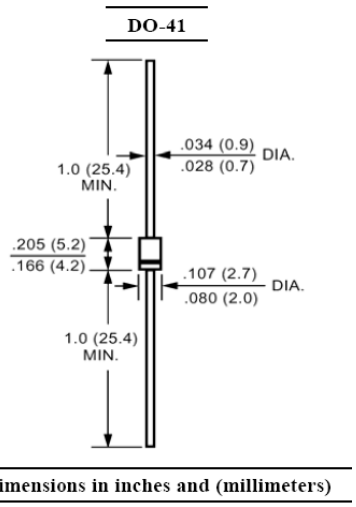
BA157 THRU BA159

Fast Silicon Rectifiers

Reverse Voltage – 400 to 1000 V
Forward Current – 1 A



Features

- Low forward voltage
- High current capability
- Low leakage current
- High surge capability

Mechanical Data

- Case: Molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltag	BA157 BA158 BA159	V_{RRM}	400 600 1000	V
Average Rectified Current		I_O	1 [1)]	A
Surge Forward Current, Half Cycle 50 Hz, starting from T_j = 25 °C		I_{FSM}	35	A
Junction Temperature		T_j	125	°C
Operating and Storage Temperature Range		T_{stg}	- 65 to + 125	°C

[1)] Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

Characteristics at T_j = 25 °C

Parameter		Symbol	Typ.	Max.	Unit
Forward Voltage at I_F = 1 A		V_F	-	1.3	V
Reverse Current at $V_R = V_{RRM}$		I_R	-	5	µA
Total Capacitance at V_R = 4 V, f = 1 MHz		C_{tot}	15	-	pF
Reverse Recovery Time					
at I_F = 10 mA, I_R = 10 mA, I_{RR} = 1 mA	BA157	t_{rr}	-	300	ns
	BA158		-	300	
	BA159		-	500	
at I_F = 0.5 A, I_R = 1 A, I_{RR} = 1 mA, I_{RR} = 0.25 A	BA157		-	150	
	BA158		-	150	
	BA159		-	250	
Thermal Resistance Junction to Ambient Air		$R_{\theta JA}$	-	25 [1)]	K/W

[1)] Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

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FIG.1-FORWARD CURRENT DERATING CURVE

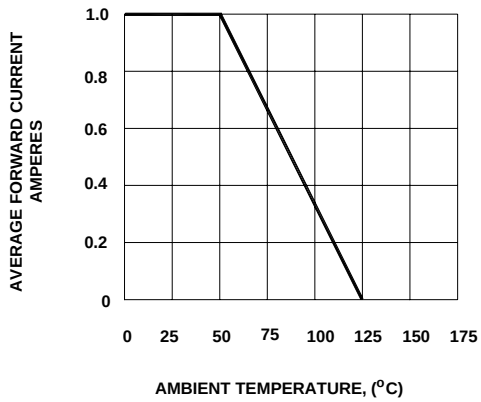

Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

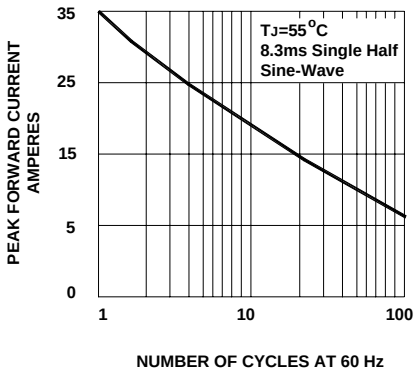

Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

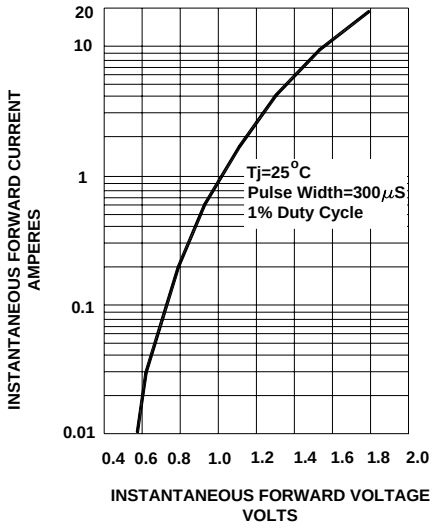

Fig.4- TYPICAL REVERSE CHARACTERISTICS

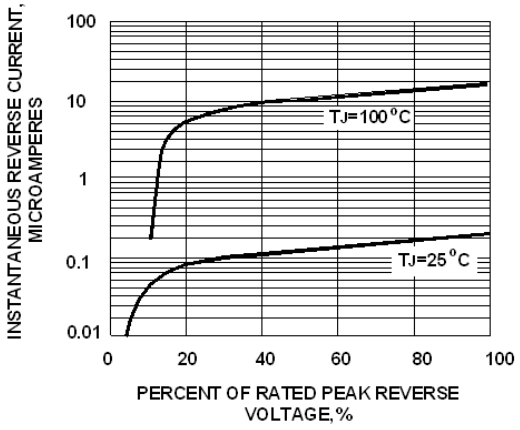

Fig.5- TYPICAL JUNCTION CAPACITANCE

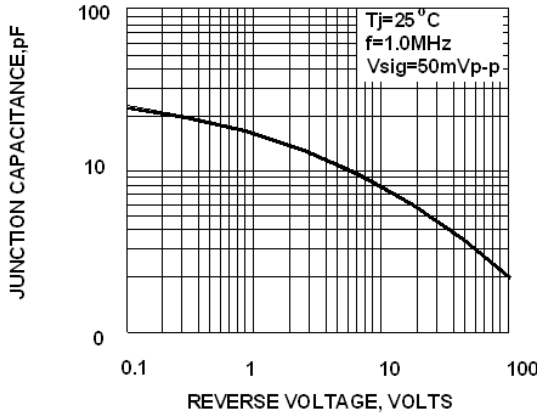

Fig.6- TYPICAL TRANSIENT THERMAL IMPEDANCE