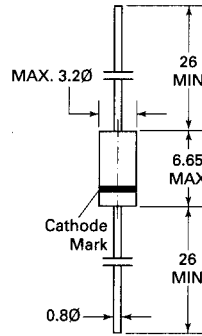


BA157...BA159 FAST SILICON RECTIFIERS

FEATURES

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



VOLTAGE RANGE

400 to 1000 Volts

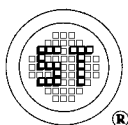
CURRENT

1.0 Amperes

Dimensions in mm

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	BA157 V_{RRM}	400	V
	BA158 V_{RRM}	600	V
	BA159 V_{RRM}	1000	V
Average Rectified Current at $T_{amb} = 50\text{ }^\circ\text{C}$	I_o	1 ¹⁾	A
Surge Forward Current, Half Cycle 50Hz, starting from $T_j = 25\text{ }^\circ\text{C}$	I_{FSM}	35	A
Junction Temperature	T_j	125°	°C
Operating and Storage Temperature Range	T_{amb}, T_s	-65 to + 125°	°C
¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.			



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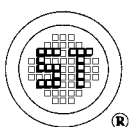
BA157...BA159

FAST SILICON RECTIFIERS

Characteristics

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at $I_F = 1 \text{ A}$, $T_j = 25 \text{ }^\circ\text{C}$	V_F	-	-	1.3	V
Leakage Current at V_{RRM} , $T_{amb} = 25 \text{ }^\circ\text{C}$	I_R	-	-	5	μA
Capacitance at $f = 1 \text{ MHz}$, $V_R = 4\text{V}$	C_{tot}	-	15	-	pF
$V_R = 4\text{V}$	C_{tot}	-	15	-	pF
$V_R = 4\text{V}$	C_{tot}	-	15	-	pF
Reverse Recovery Time $I_F = 10 \text{ mA}$, $I_R = 10 \text{ mA}$	t_{rr}	-	-	300	ns
$I_{RR} = 1.0 \text{ mA}$	t_{rr}	-	-	300	ns
	t_{rr}	-	-	500	ns
$I_F = 0.5 \text{ A}$, $I_R = 1\text{A}$	t_{rr}	-	-	150	ns
$I_{RR} = 0.25 \text{ A}$	t_{rr}	-	-	150	ns
	t_{rr}	-	-	250	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	-	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

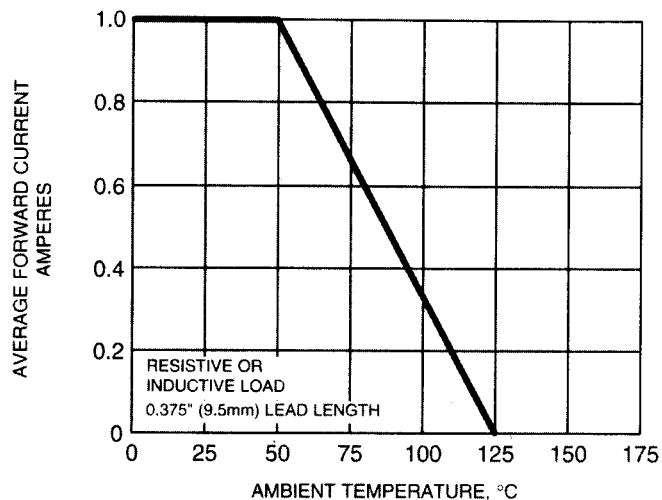


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

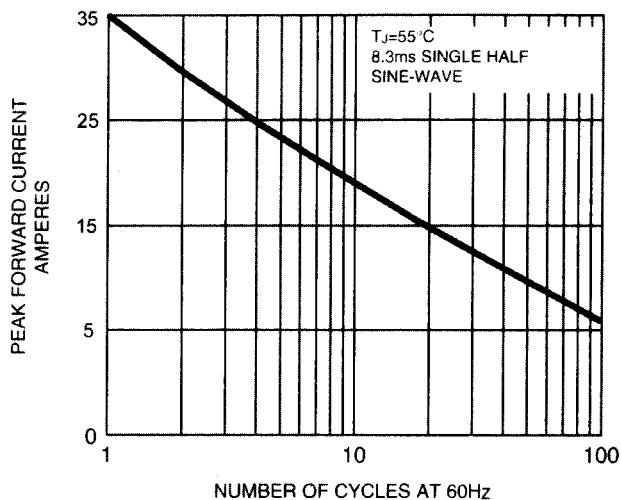
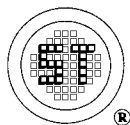
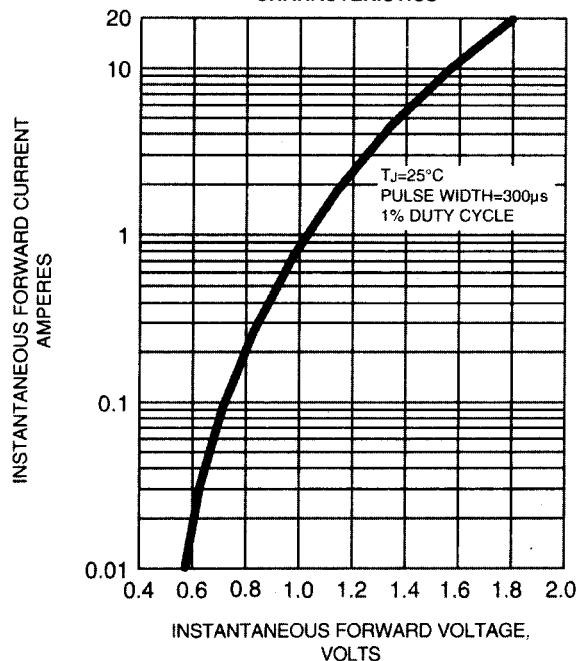


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



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FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

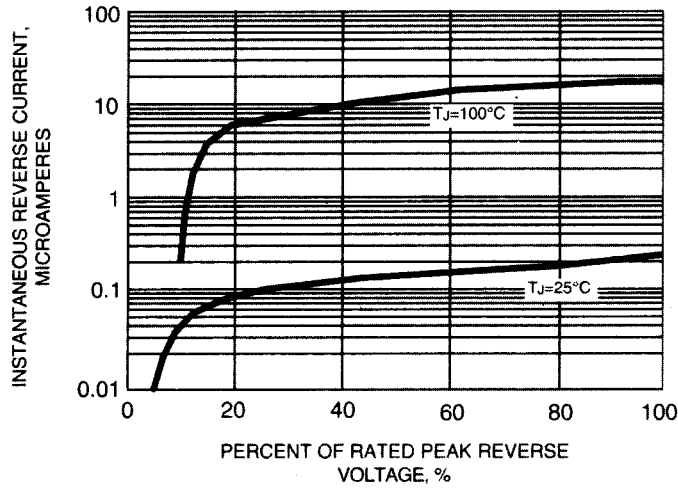


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

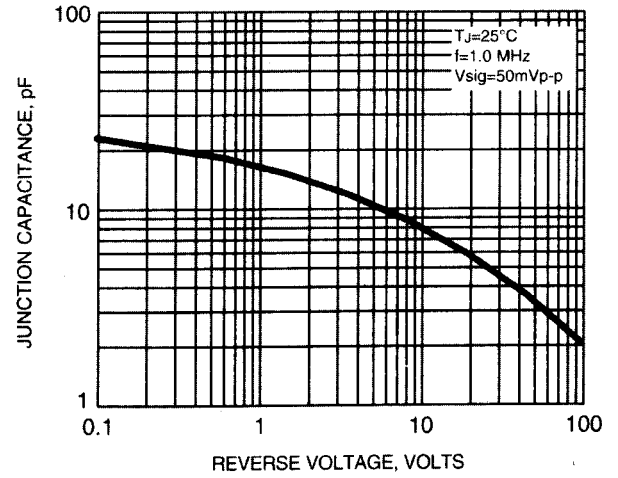
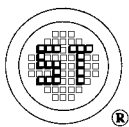
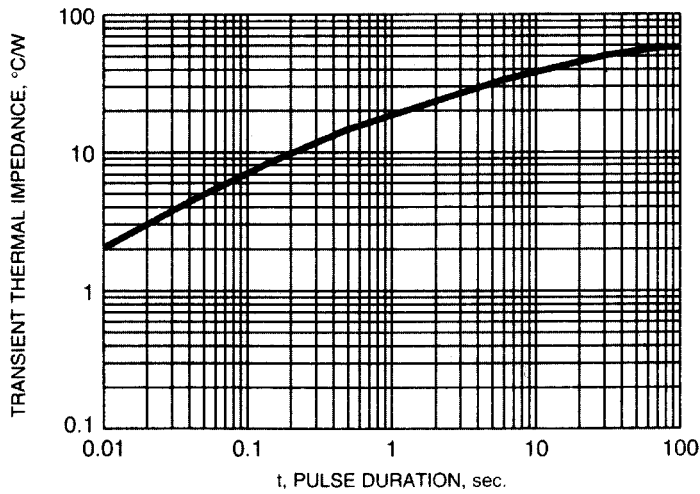


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



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