

BA157 THRU BA159

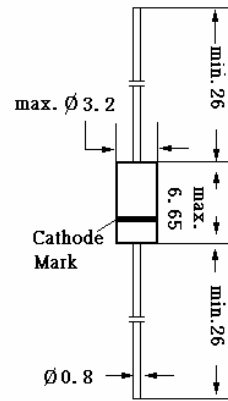
FAST SILICON RECTIFIERS

Reverse Voltage – 400 to 1000 Volts

Forward Current – 1.0 Ampere

Features

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



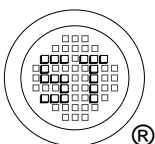
VOLTAGE RANGE
400 to 1000 Volts
CURRENT
1.0 Amperes

Dimensions in mm

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

		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 $T_{amb}=50^\circ\text{C}$		I_o	1 ¹⁾	A
Surge Forward Current, Half Cycle 50Hz, starting from $T_j=25^\circ\text{C}$		I_{FSM}	35	A
Junction Temperature		T_j	125	$^\circ\text{C}$
Operating and Storage Temperature Range		T_s	-65 to +125	$^\circ\text{C}$

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



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103
 ISO 14001:2004 Certificate No. 7116
 ISO 9001:2000 Certificate No. 0506098

Dated : 20/06/2003

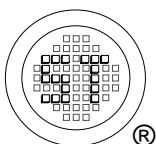
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Characteristics at $T_j=25^\circ\text{C}$

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

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FIG.1-FORWARD CURRENT DERATING CURVE

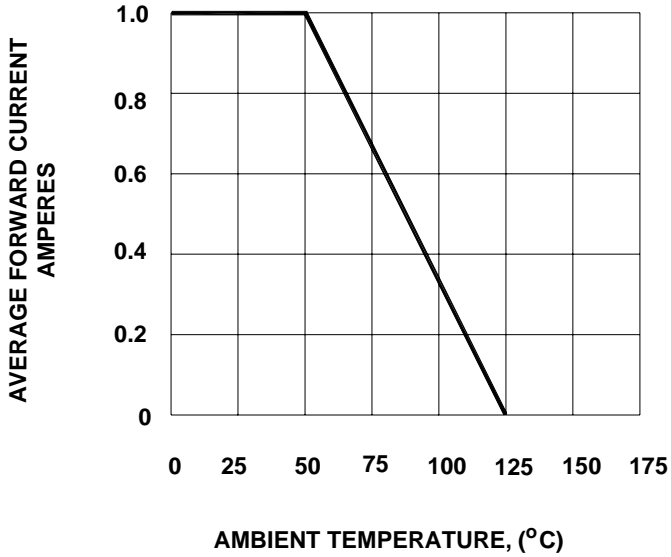


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

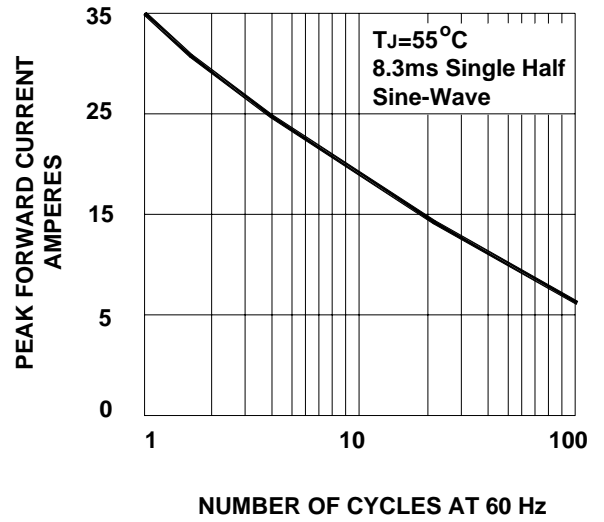
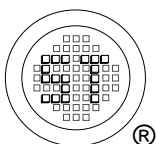
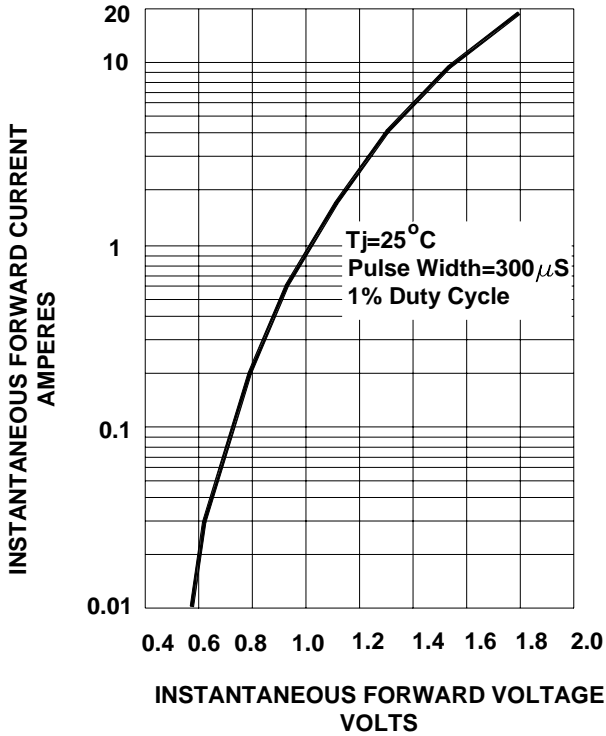


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



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Fig.4- TYPICAL REVERSE CHARACTERISTICS

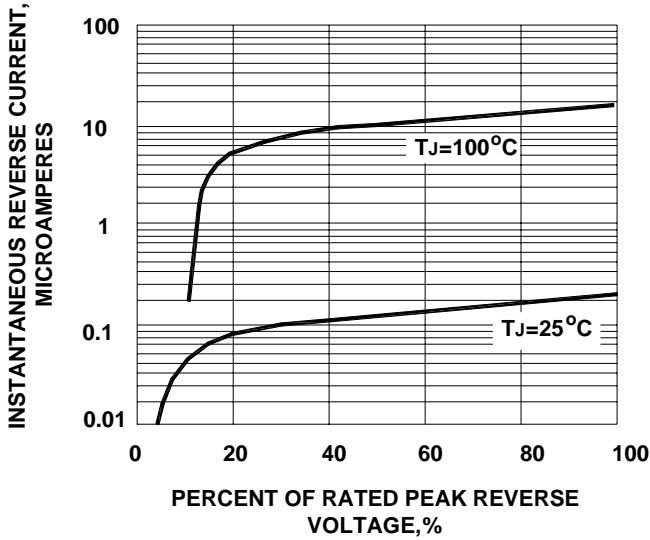


Fig.5- TYPICAL JUNCTION CAPACITANCE

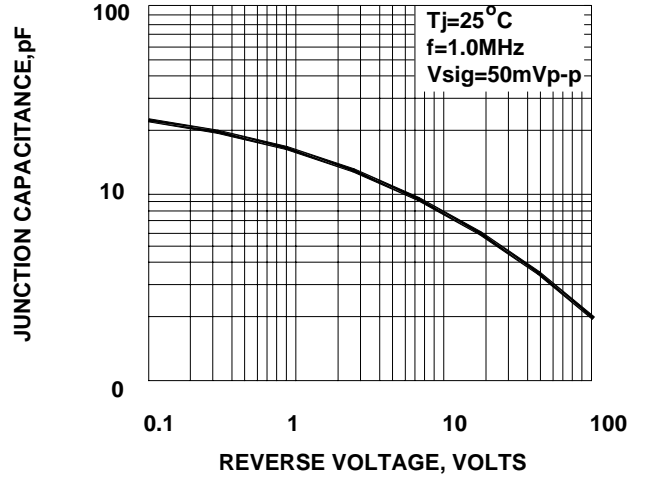
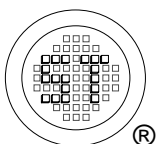
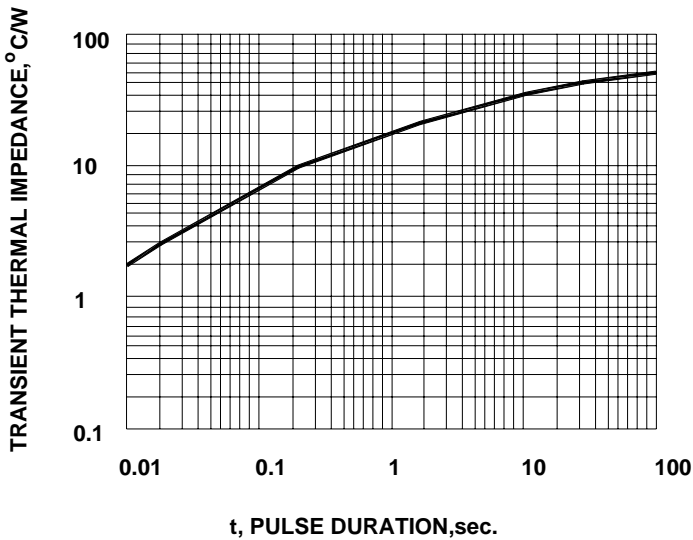


Fig.6- TYPICAL TRANSIENT THERMAL IMPEDANCE



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