

BC817 / BC818

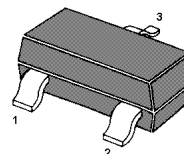
NPN Silicon Epitaxial Planar Transistors

for switching, AF driver and amplifier application, especially suited for automatic insertion in thick and thin-film circuits.

These transistors are subdivided into three groups –16, -25, -40 according to their current gain.

As complementary types, the PNP transistors BC807 and BC808 are recommended.

SOT-23

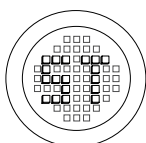


1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

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

		Symbol	Value	Unit
Collector Emitter Voltage	BC817	V_{CES}	50	V
	BC818		30	
Collector Emitter Voltage	BC817	V_{CEO}	35	V
	BC818		25	
Emitter Base Voltage		V_{EBO}	5	V
Collector Current		I_C	500	mA
Power Dissipation		P_{tot}	200	mW
Thermal Resistance , Junction to Ambient		$R_{\theta JA}$	450	$^\circ\text{C/W}$
Thermal Resistance Junction to Substrate Backside		$R_{\theta SB}$	320	$^\circ\text{C/W}$
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature Range		T_s	-65 to +150	$^\circ\text{C}$



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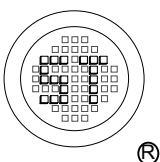
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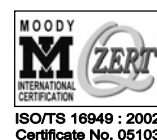
BC817 / BC818

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

	Symbol	Min.	TYP	Max.	Unit
DC Current Gain at $V_{CE}=1V$, $I_C=100mA$					
-16	h_{FE}	100	-	250	-
-25	h_{FE}	160	-	400	-
-40	h_{FE}	250	-	600	-
at $V_{CE}=1V$, $I_C=500mA$	h_{FE}	40	-	-	-
Collector Emitter Saturation Voltage at $I_C=500mA$, $I_B=50mA$	V_{CEsat}	-	-	0.7	V
Base Emitter Saturation Voltage at $I_C=500mA$, $I_B=50mA$	V_{BEsat}	-	-	1.3	V
Base Emitter On Voltage at $I_C=500mA$, $V_{CE}=1V$	$V_{BE(on)}$	-	-	1.2	V
Collector Cutoff Current at $V_{CB}=20V$	I_{CBO}	-	-	100	nA
at $V_{CB}=20V$, $T_J=150^{\circ}\text{C}$	I_{CBO}	-	-	5	μA
Emitter Cutoff Current at $V_{EB}=4V$	I_{EBO}	-	-	100	nA
Current Gain Bandwidth Product at $V_{CE}=5V$, $I_C=10mA$, $f=50MHz$	f_T	-	100	-	MHz
Collector Base Capacitance at $V_{CB}=10V$, $f=1MHz$	C_{cbo}	-	12	-	pF



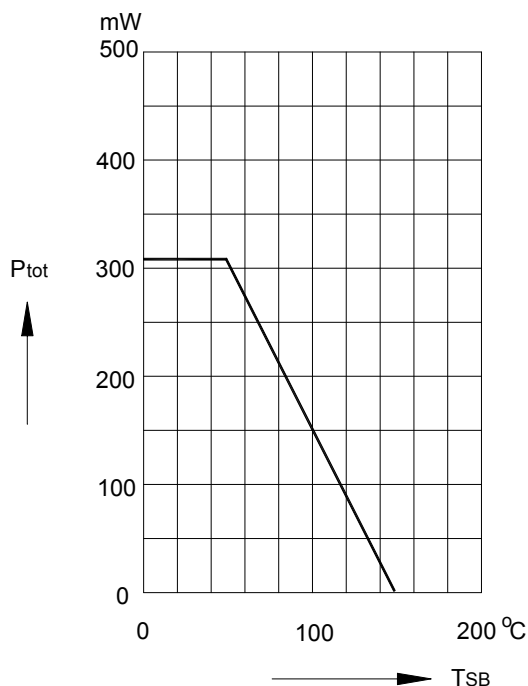
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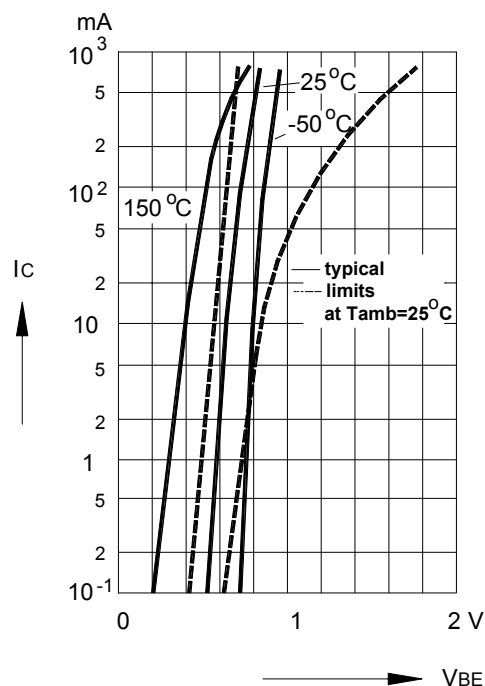
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**Admissible power dissipation
versus temperature of substrate
backside**

Device on fiberglass substrate, see layout

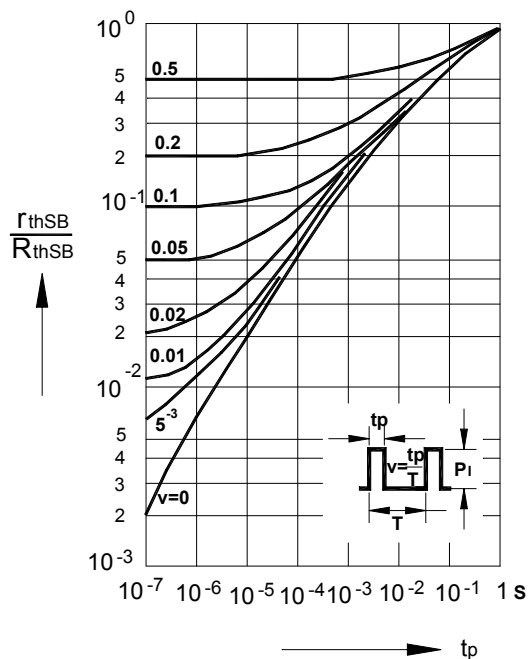


**Collector current
versus base emitter voltage**

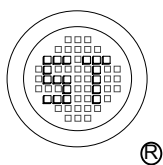
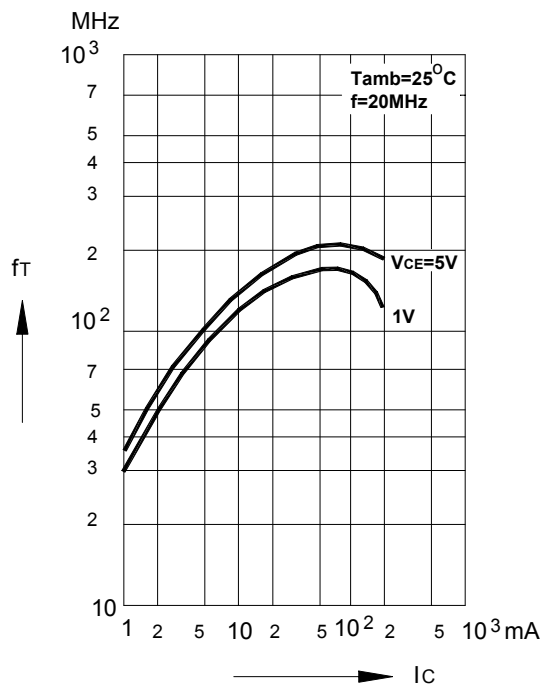


**Pulse thermal resistance versus
pulse duration(normalized)**

Device on fiberglass substrate, see layout

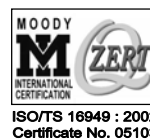


**Gain bandwidth product
versus collector current**



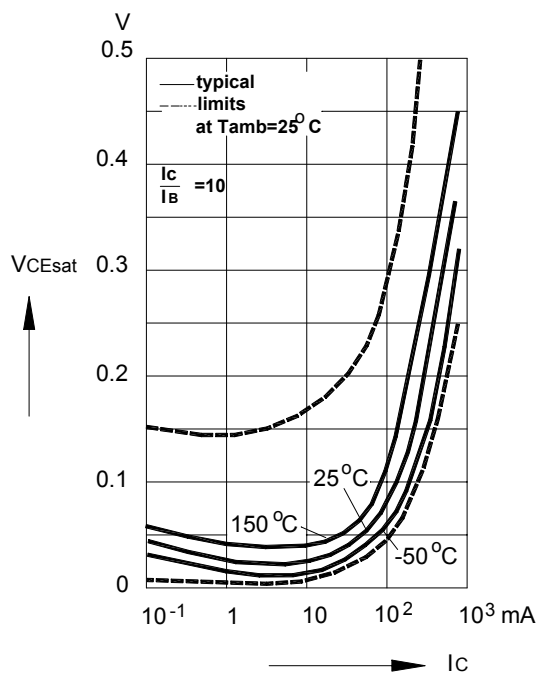
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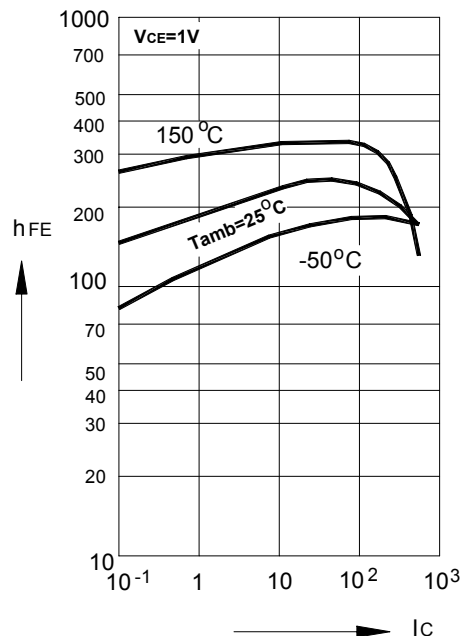


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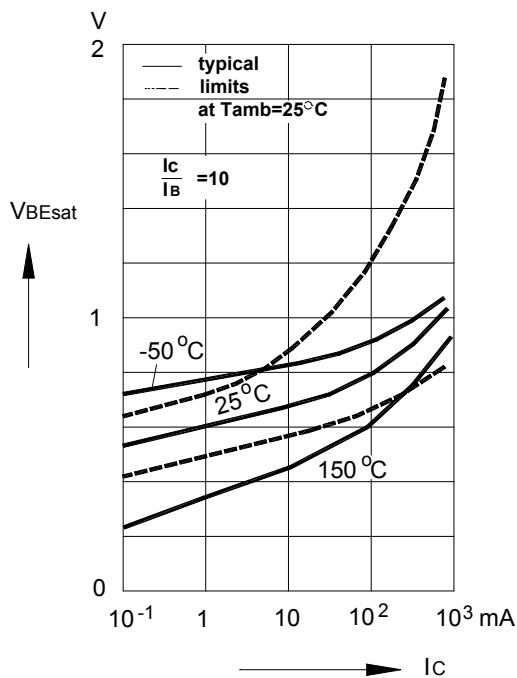
Collector saturation voltage
versus collector current



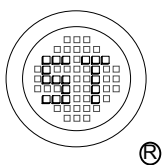
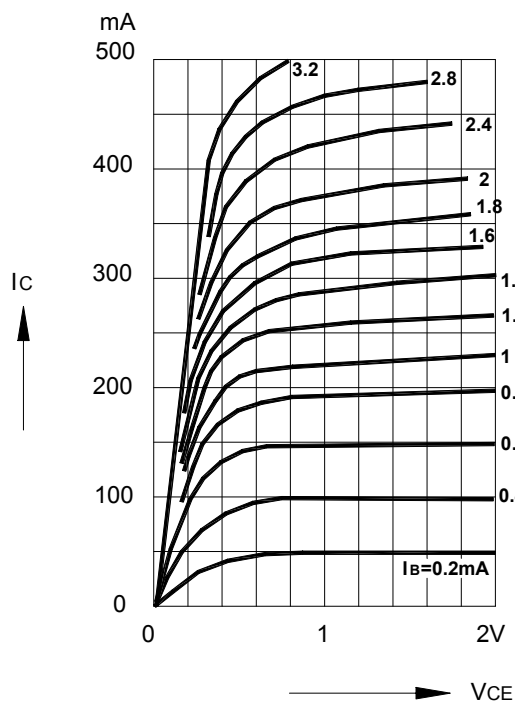
DC current gain
versus collector current



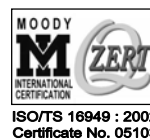
Base saturation voltage
versus collector current



Common emitter
collector characteristics

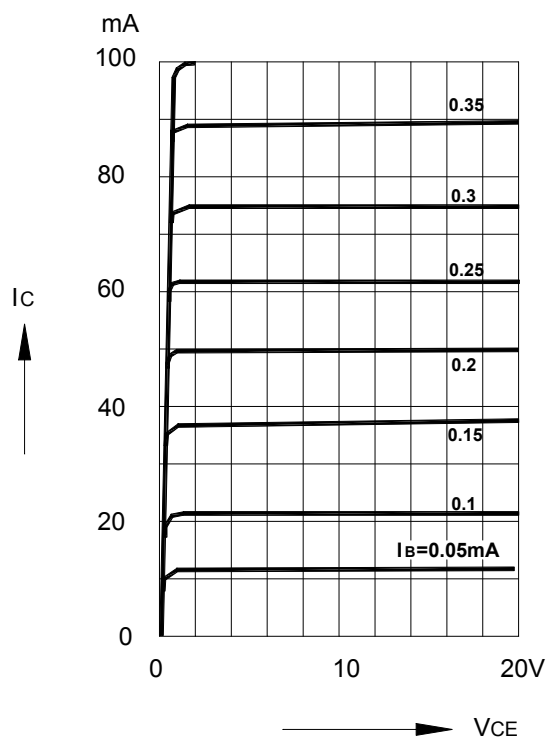


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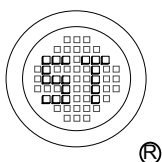
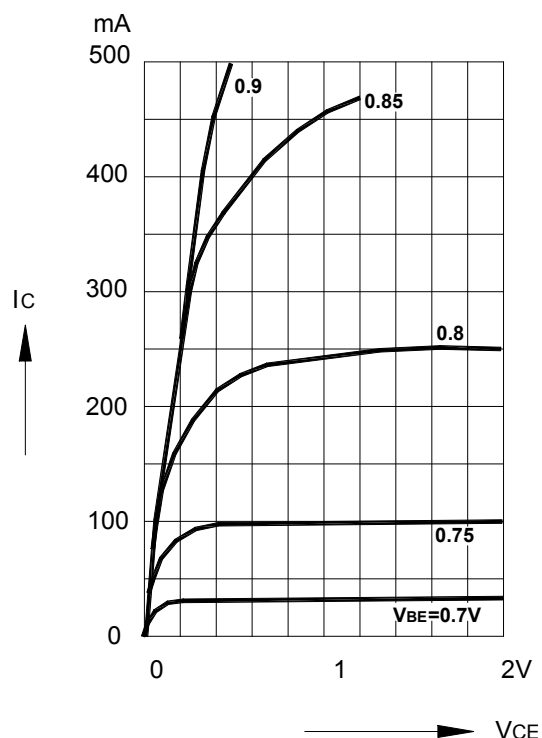


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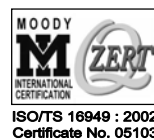
Common emitter
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