

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- For General AF Applications
- High Collector Current, High Current Gain
- Low Collector-Emitter Saturation Voltage
- Qualified to AEC-Q101 Standards for High Reliability

MARKING

Part Number	Marking
BC807-16CR-C	5A
BC807-25CR-C	5B
BC807-40CR-C	5C

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

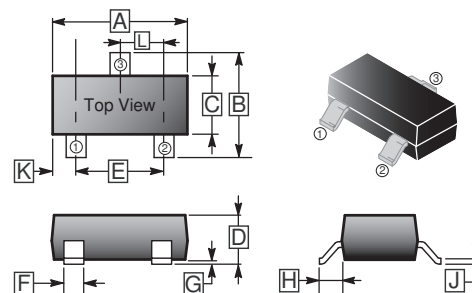
ORDER INFORMATION

Part Number	Type
BC807-16CR-C	Lead (Pb)-free and Halogen-free
BC807-25CR-C	
BC807-40CR-C	

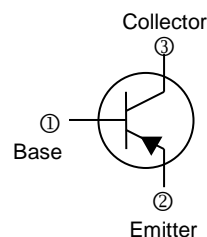
ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted.)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current-Continuous	I _C	-500	mA
Total Device Dissipation	P _D	300	mW
Thermal Resistance, Junction-Ambient	R _{θJA}	417	°C/W
Junction, Storage Temperature Range	T _J , T _{STG}	-55~150	°C

SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.65	3.10	G	0	0.18
B	2.10	3.00	H	0.55 REF.	
C	1.10	1.80	J	0.05	0.26
D	0	1.40	K	0.60 REF.	
E	1.70	2.30	L	0.95 TYP.	
F	0.28	0.55			



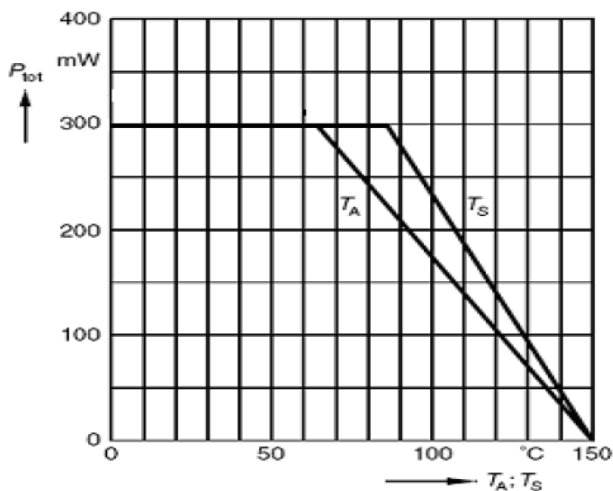
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	-50	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	-45	-	-	V	$I_C = -10\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	-5	-	-	V	$I_E = -10\mu\text{A}, I_C = 0$
Collector Cut-off Current		I_{CBO}	-	-	-0.1	μA	$V_{CB} = -25\text{V}, I_E = 0$
Emitter Cut-off Current		I_{EBO}	-	-	-0.1		$V_{CE} = -4\text{V}, I_C = 0$
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	-	-	-0.7	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	-	-	-1.2	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$
DC Current Gain	BC807-16CR-C	h_{FE}	100	160	250		$V_{CE} = -1\text{V}, I_C = -100\text{mA}$
	BC807-25CR-C		160	250	400		
	BC807-40CR-C		250	350	600		
DC Current Gain	BC807-16CR-C	h_{FE}	60	-	-		$V_{CE} = -1\text{V}, I_C = -300\text{mA}$
	BC807-25CR-C		100	-	-		
	BC807-40CR-C		170	-	-		
Transition Frequency		f_T	-	200	-	MHz	$V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$
Collector Capacitance		C_{ob}	-	10	-	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$

CHARACTERISTIC CURVES

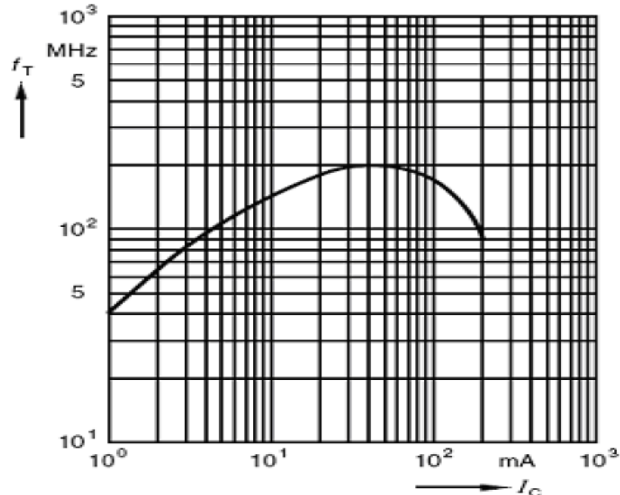
Total power dissipation $P_{tot} = f(T_A^*; T_S)$

* Package mounted on epoxy



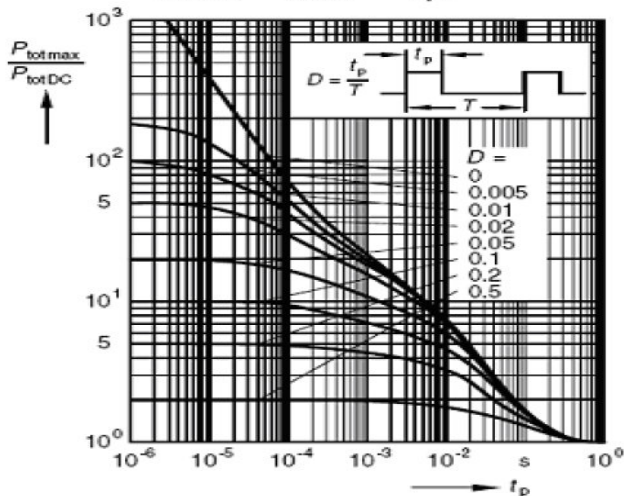
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5V$



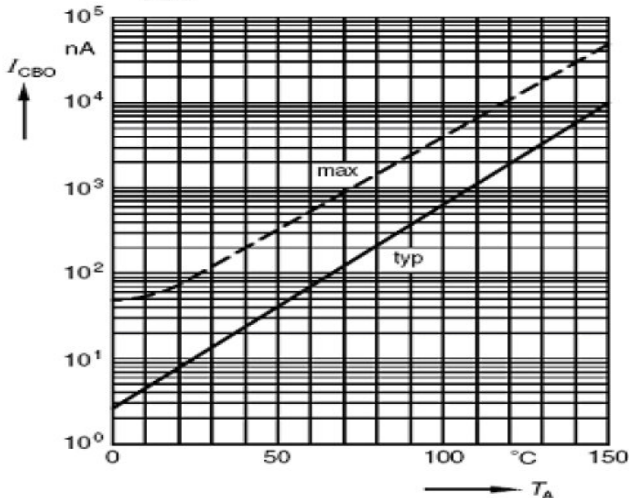
Permissible pulse load

$P_{totmax} / P_{totDC} = f(t_p)$



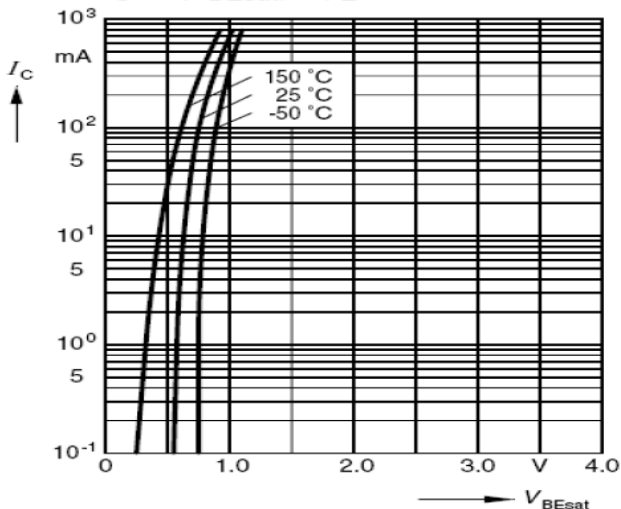
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CBO} = 25V$



Base-emitter saturation voltage

$I_C = f(V_{BEsat}), h_{FE} = 10$



Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$

