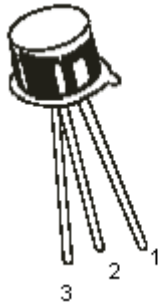
2N2222 (NPN Transistor)



Pin Configuration:
1. Emitter
2. Base
3. Collector

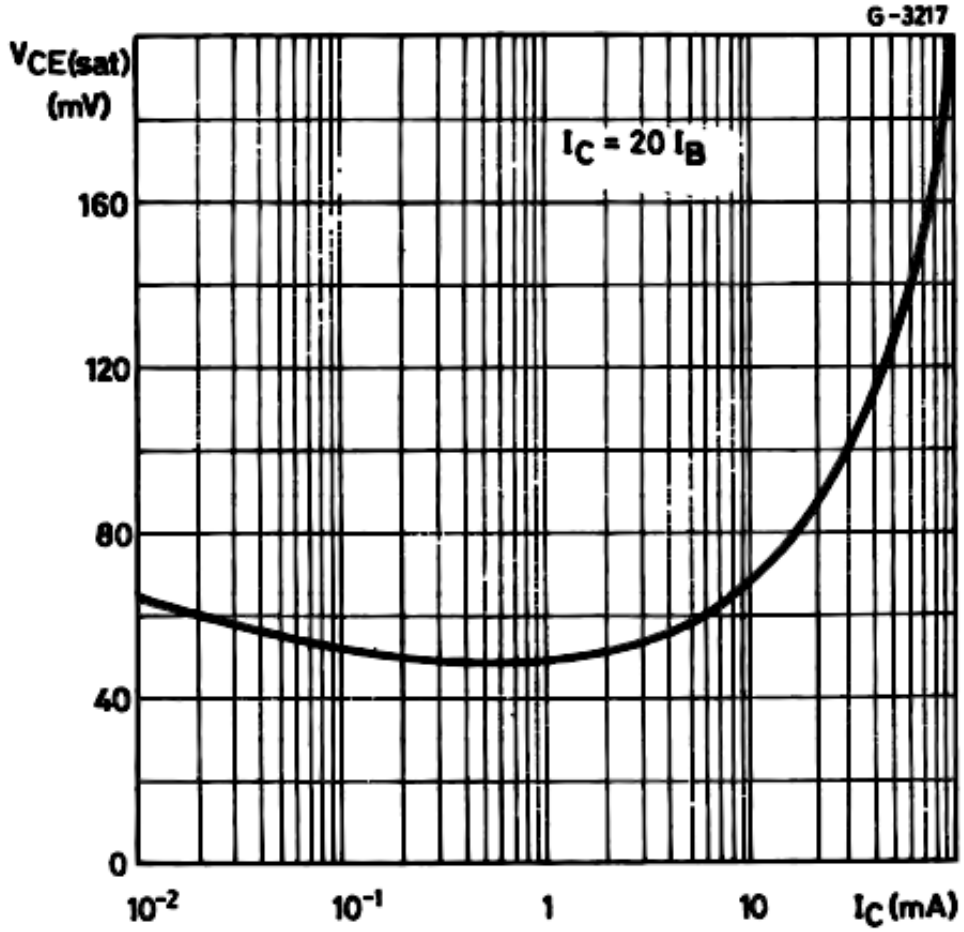
Description	Symbol	Test Condition	Value		Unit
			Minimum	Maximum	
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C = 10mA, I_B = 0	30	-	V
Collector Base Breakdown Voltage	BV_{CBO}	I_C = 10µA, I_E = 0	60	-	
Emitter Base Breakdown Voltage	V_{EBOf}	I_E = 10µA, I_C = 0	5	-	
Collector Leakage Current	I_{CBO}	V_{CB} = 50V, I_E = 0 V_{CB} = 50V, I_E = 0 T_a = 150°C	-	10 10	nA µA
Collector Emitter Saturation Voltage	$^*V_{CE\ (Sat)}$	I_C = 150mA, I_B = 15mA I_C = 500mA, I_B = 50mA	-	0.4 1.6	V
Base Emitter Saturation Voltage	$^*V_{BE\ (Sat)}$	I_C = 150mA, I_B = 15mA I_C = 500mA, I_B = 50mA	0.6	1.3 2.6	

Datasheet

2N2222 (NPN Transistor)

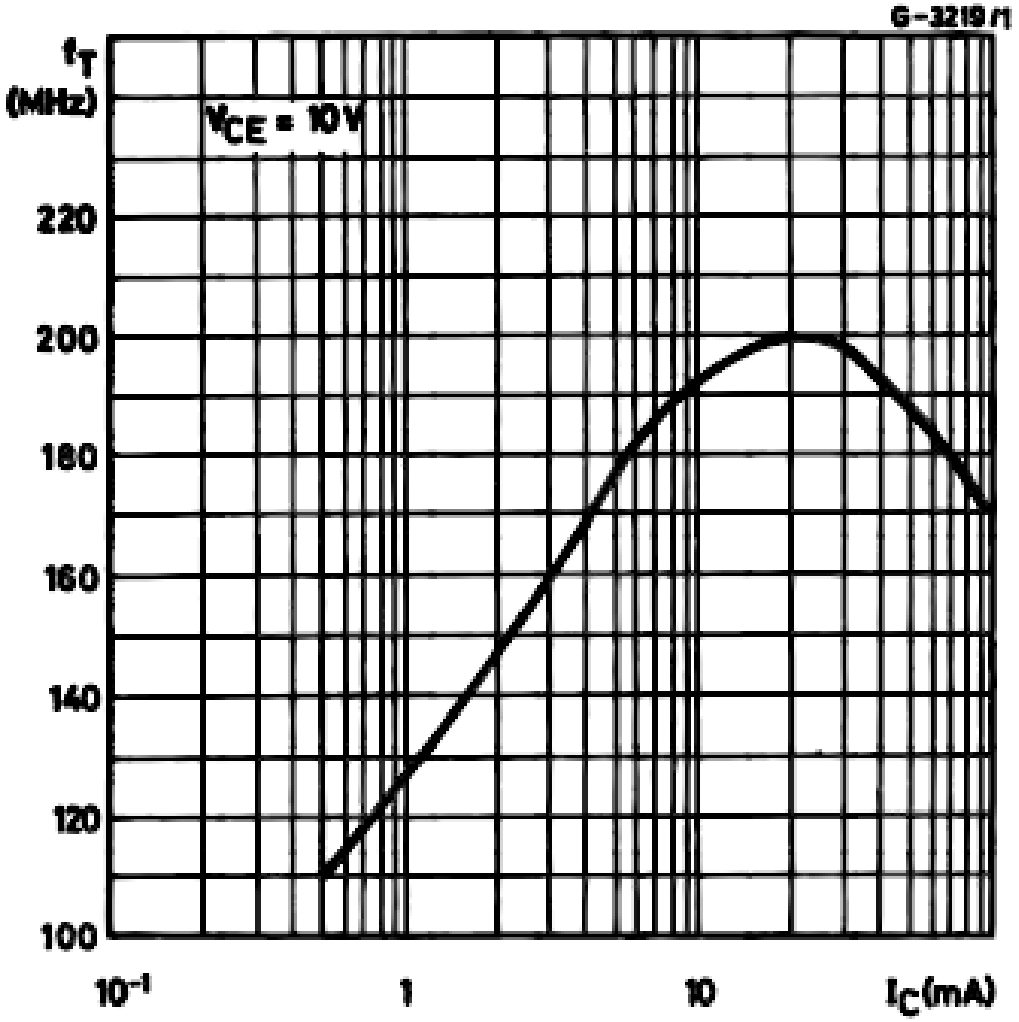
Parameter	Symbol	Test Condition	2N2222		Unit
			Minimum	Maximum	
DC Current Gain	h_{FE}	I_C = 0.1mA, V_{CE} = 10V* I_C = 1mA, V_{CE} = 10V I_C = 10mA, V_{CE} = 10V* I_C = 150mA, V_{CE} = 1V* I_C = 150mA, V_{CE} = 1V* I_C = 500mA, V_{CE} = 10V*	35 50 75 50 100 30	300	-
Dynamic Characteristics					
Transition Frequency	f_t	I_C = 20mA, V_{CE} = 20V f = 100MHz	250	-	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0 f = 100kHz	-	8	pF
Input Capacitance	C_{ib}	V_{EB} = 0.5V, I_C = 0 f = 100kHz	-	30	
Switching Characteristics					
Delay Time	t_d	I_C = 150mA,I_{B1} = 15mA	-	10	ns
Rise Time	t_r	V_{CC} = 30V, $V_{BE\ (off)}$ = 0.5V	-	25	
Storage Time	t_s	I_C = 150mA, I_{B1} = 15mA	-	225	
Fall Time	t_f	I_{B2} = 15mA, V_{CC} = 30V	-	60	

BC107
(NPN Transistor)



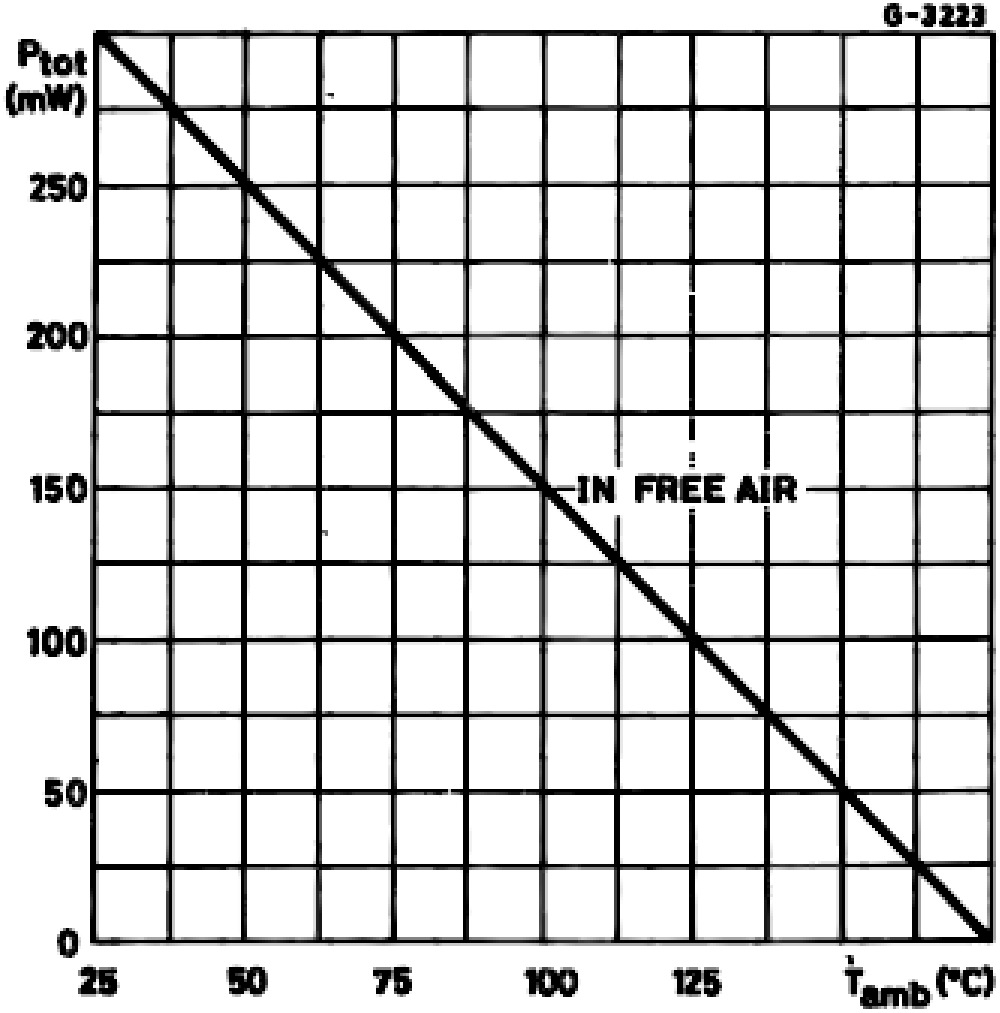
Datasheet

BC107
(NPN Transistor)



f_T: Transient Frequency

BC107
(NPN Transistor)



Power Rating Chart

BC177
(PNP Transistor)

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-Emitter Voltage (V_{BE} = 0)	-50	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	-45	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	-5	V
I_C	Collector Current	-100	mA
I_{CM}	Collector Peak Current	-200	mA
P_{tot}	Total Dissipation at $T_{amb} \leq 25\ ^oC$	0.3	W
T_{stg}	Storage Temperature	-65 to 175	^oC
T_j	Max. Operating Junction Temperature	175	^oC

Datasheet