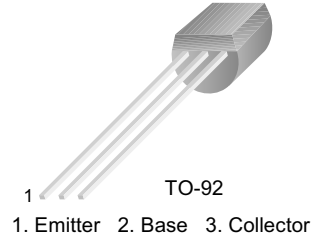


General Purpose Transistor

- Collector-Emitter Voltage: $V_{CEO} = 40V$
- Collector Power Dissipation: $P_C (\text{max}) = 625mW$
- Refer STC2222 for graphs



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ C$

Electrical Characteristics $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu A, I_E = 0$	75			V
BV_{CEO}	Collector Emitter Breakdown Voltage	$I_C = 10mA, I_B = 0$	40			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu A, I_C = 0$	6			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 60V, I_E = 0$			0.01	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 3V, I_C = 0$			10	nA
h_{FE}	DC Current Gain	$I_C = 0.1mA, V_{CE} = 10V$ $V_{CE} = 10V, I_C = 1mA$ $V_{CE} = 10V, I_C = 10mA$ $V_{CE} = 10V, *I_C = 150mA$ $V_{CE} = 10V, *I_C = 500mA$	35 50 75 100 40		300	
$V_{CE} (\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$			0.3 1	V V
$V_{BE} (\text{sat})$	* Base-Emitter Saturation Voltage	$I_C = 150mA, I_B = 15mA$ $I_C = 500mA, I_B = 50mA$		0.6	1.2 2	V V
f_T	Current Gain Bandwidth Product	$V_{CE} = 20V, I_C = 20mA$ $f = 100MHz$	300			MHz
C_{ob}	Output Capacitance	$V_{CB} = 10V, I_E = 0, f = 1MHz$			8	pF
t_{ON}	Turn On Time	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = 15mA, V_{BE}(\text{off}) = 0.5V$			35	ns
t_{OFF}	Turn Off Time	$V_{CC} = 30V, I_C = 150mA$ $I_{B1} = I_{B2} = 15mA$			285	ns
NF	Noise Figure	$I_C = 100\mu A, V_{CE} = 10V$ $R_S = 1K\Omega, f = 1KHz$			4	dB

* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

Typical Characteristics **STC2222A**

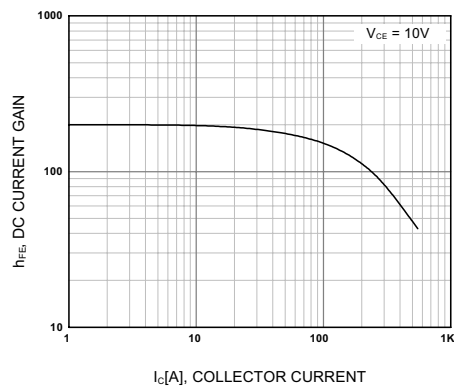


Figure 1. DC current Gain

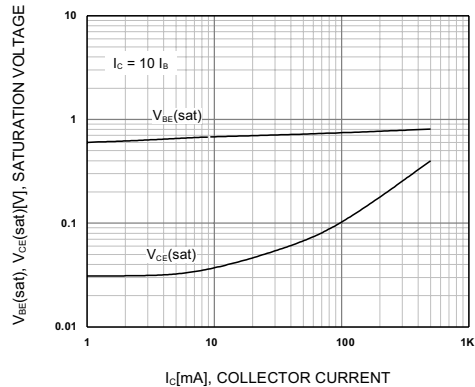


Figure 2. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

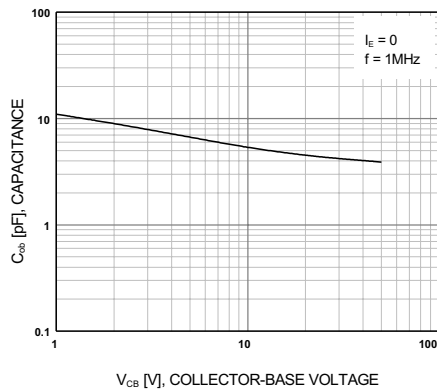


Figure 3. Output Capacitance

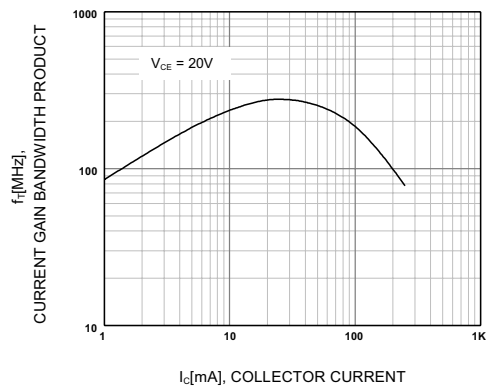


Figure 4. Current Gain Bandwidth Product