



**APPLICATIONS**

Switching and Aamplifier Applications.

**ABSOLUTE MAXIMUM RATINGS (  $T_a=25$  )**

$T_{stg}$ —Storage Temperature..... -55~150

$T_j$ —Junction Temperature.....150

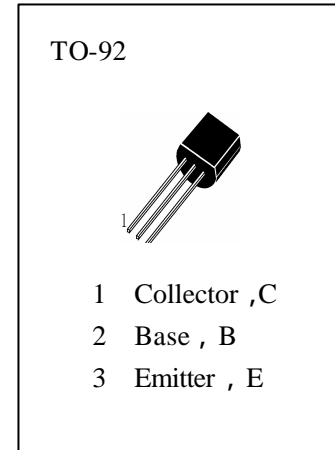
$P_C$ —Collector Dissipation.....500mW

$V_{CES}$ —Collector- Emitter Voltage.....30V

$V_{CEO}$ —Collector-Emitter Voltage.....25V

$V_{EBO}$ —Emitter-Base Voltage.....5V

$I_C$ —Collector Current.....100mA



**ELECTRICAL CHARACTERISTICS (  $T_a=25$  )**

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BVCEO	Collector-Emitter Breakdown Voltage	25			V	$I_C=2mA, I_B=0$
BVEBO	Emitter-Base Breakdown Voltage	5			V	$I_E=1\mu A, I_C=0$
ICES	Collector Cut-off Current		0.2	15	nA	$V_{CE}=30V, V_{BE}=0$
HFE	DC Current Gain	120		800		$V_{CE}=5V, I_C=2mA$
$V_{CE(sat1)}$	Collector- Emitter Saturation Voltage		0.07	0.2	V	$I_C=10mA, I_B=0.5mA$
$V_{CE(sat2)}$	Collector- Emitter Saturation Voltage		0.2	0.6	V	$I_C=100mA, I_B=5mA$
$V_{BE(sat1)}$	Base-Emitter Saturation Voltage		0.73	0.83	V	$I_C=10mA, I_B=0.5mA$
$V_{BE(sat2)}$	Base-Emitter Saturation Voltage		0.87	1.05	V	$I_C=100mA, I_B=5mA$
$V_{BE(on)}$	Base-Emitter On Voltage	0.55	0.62	0.7	V	$V_{CE}=5V, I_C=2mA$
$f_T(1)$	Current Gain-Bandwidth Product		85		MHz	$V_{CE}=3V, I_C=0.5mA, f=100MHz$
$f_T(2)$	Current Gain-Bandwidth Product	150	250		MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$
Cob	Output Capacitance		3.5	6	pF	$V_{CB}=10V, I_E=0, f=1MHz$
NF	Noise Figure		2	10	dB	$V_{CE}=5V, I_C=0.2mA, f=1KHz, R_G=2KO$

**$h_{FE}$  Classification**

A	B	C
120—220	180—460	380—800

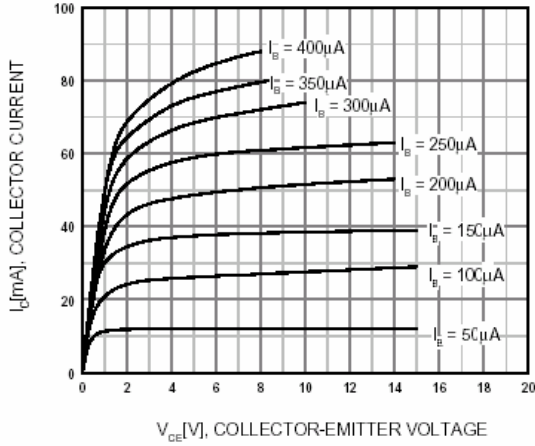


Figure 1. Static Characteristic

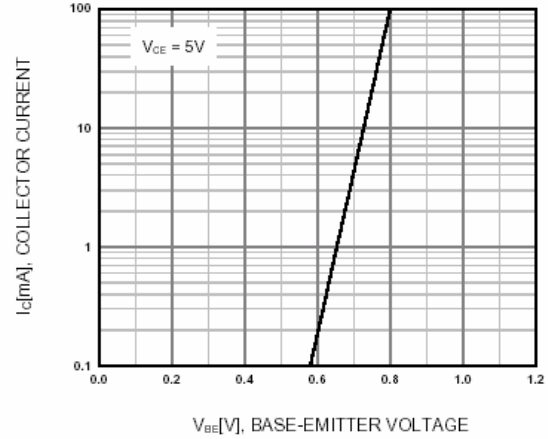


Figure 2. Transfer Characteristic

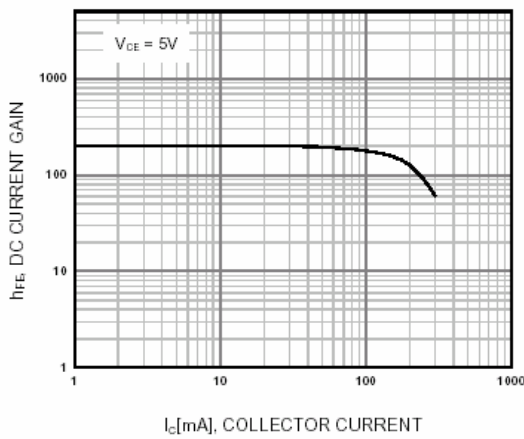


Figure 3. DC current Gain

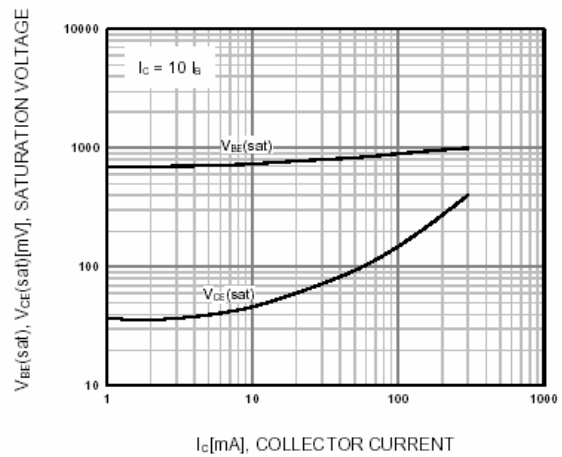


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

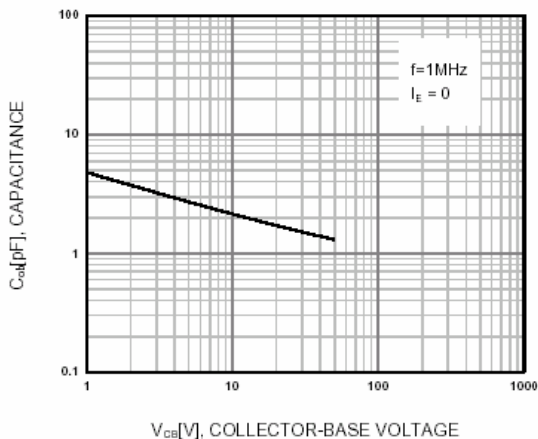


Figure 5. Output Capacitance

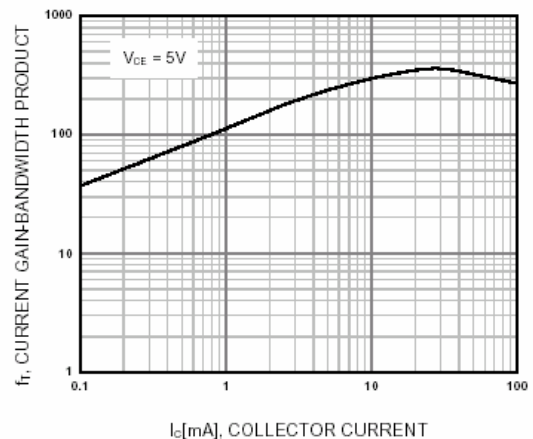


Figure 6. Current Gain Bandwidth Product