

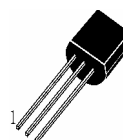


SWITCHING AND AMPLIFIER

ABSOLUTE MAXIMUM RATINGS ($T_a=25$)

T_{stg}	Storage Temperature.....	-55~150
T_j	Junction Temperature.....	150
P_C	Collector Dissipation.....	500mW
V_{CBO}	Collector-Base Voltage.....	80V
V_{CEO}	Collector-Emitter Voltage.....	65V
V_{EBO}	Emitter-Base Voltage.....	6V
I_C	Collector Current.....	100mA

TO-92



- 1—Collector , C
2—Base , B
3—Emitter , E

ELECTRICAL CHARACTERISTICS ($T_a=25$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CBO}	Collector-Base Breakdown Voltage	80			V	$I_C=100\mu A$, $I_E=0$
BV_{CEO}	Collector-Emitter Breakdown Voltage	65			V	$I_C=1mA$, $I_B=0$
BV_{EBO}	Emitter-Base Breakdown Voltage	6			V	$I_E=1mA$, $I_C=0$
I_{CBO}	Collector Cut-off Current			15	nA	$V_{CB}=30V$, $I_E=0$
$H_{FE}(1)$	DC Current Gain	110		800		$V_{CE}=5V$, $I_C=2mA$
$V_{CE(sat1)}$	Collector- Emitter Saturation Voltage		90	250	mV	$I_C=10mA$, $I_B=0.5mA$
$V_{CE(sat2)}$			200	600	mV	$I_C=100mA$, $I_B=5mA$
$V_{BE(sat1)}$	Base-Emitter Saturation Voltage		0.7	1	V	$I_C=10mA$, $I_B=0.5mA$
$V_{BE(sat2)}$			0.9	1.2	V	$I_C=100mA$, $I_B=5mA$
$V_{BE(ON)}$	Base-Emitter On Voltage	580	660	700	mV	$V_{CE}=5V$, $I_C=2mA$
f_T	Current Gain-Bandwidth Product		300		MHz	$V_{CE}=5V$, $I_C=10mA$
C_{ob}	Output Capacitance		2.5		pF	$V_{CB}=10V$, $I_E=0$ $f=100MHz$
NF	Noise Figure		2	10	dB	$V_{CE}=5V$, $I_C=0.2Ma$ $f=1KHz$, $R_g=2K\Omega$

h_{FE} Classification

A

B

C

110—220

200—450

420—800

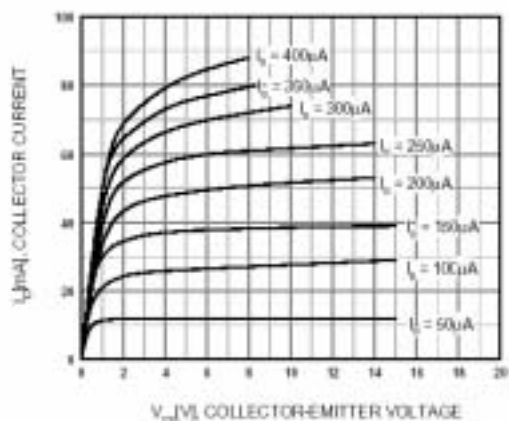


Figure 1. Static Characteristic

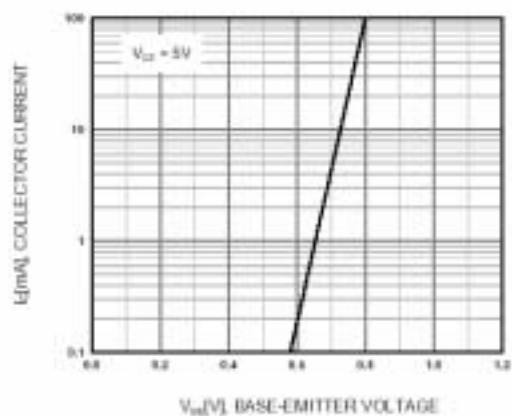


Figure 2. Transfer Characteristic

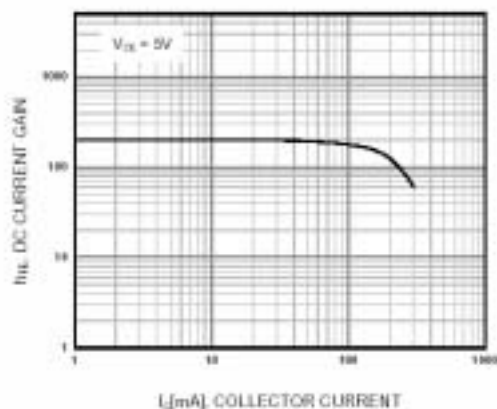


Figure 3. DC current Gain

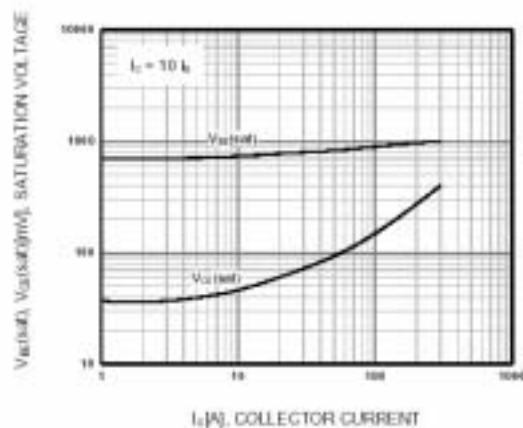


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

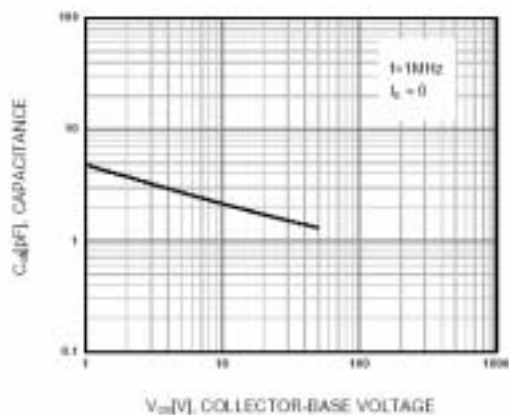


Figure 5. Output Capacitance

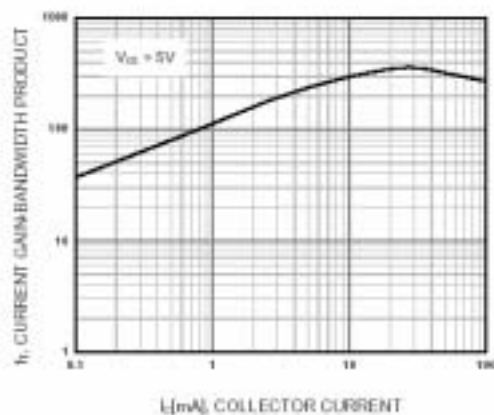


Figure 6. Current Gain Bandwidth Product