

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

FEATURES

Power dissipation

$P_{CM} : 1 \text{ W}$

Collector Current

$I_{CM} : 1.5 \text{ A}$

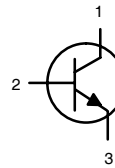
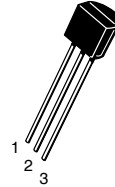
Collector-base voltage

$V_{(BR)CBO} : 40 \text{ V}$

Operating & storage junction temperature

$T_j, T_{stg} : -55^{\circ}\text{C} \sim +150^{\circ}\text{C}$

TO-92



- 1. EMITTER
- 2. BASS
- 3. COLLECTOR

ELECTRICAL CHARACTERISTICS ($T_{amp}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40 \text{ V}, I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20 \text{ V}, I_B = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$			0.1	μA
DC current gain	$H_{FE(1)}$	$V_{CE} = 1 \text{ V}, I_C = 100 \text{ mA}$	85		400	
	$H_{FE(2)}$	$V_{CE} = 1 \text{ V}, I_C = 800 \text{ mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800 \text{ mA}, I_B = 80 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800 \text{ mA}, I_B = 80 \text{ mA}$			1.2	V
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}$ $f = 30 \text{ MHz}$	100			MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	B	C	D	E
Range	85-160	120-200	160-300	300-400

Typical Characteristics

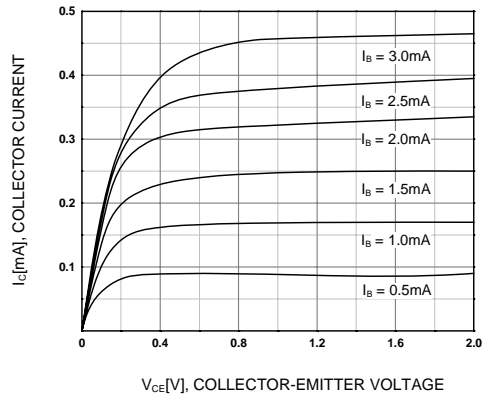


Figure 1. Static Characteristic

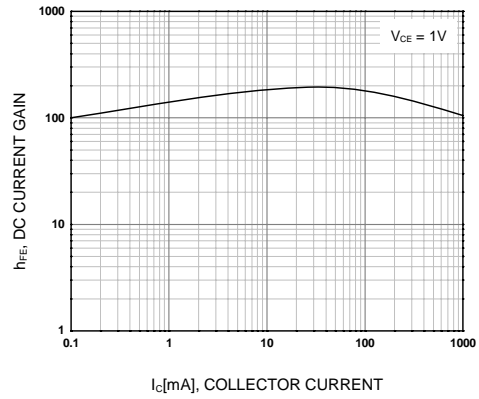
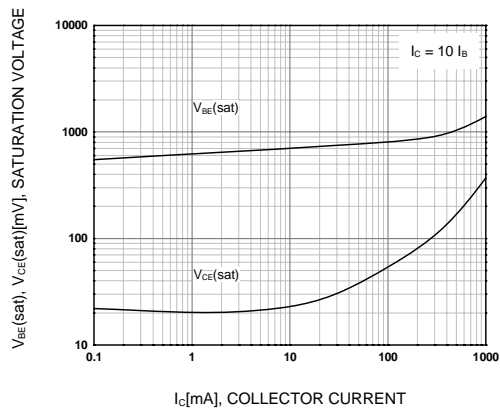


Figure 2. DC current Gain



**Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

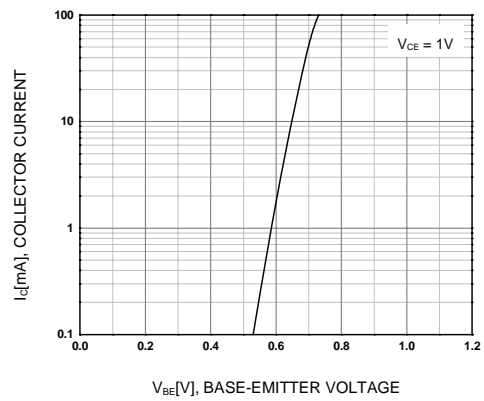


Figure 4. Base-Emitter On Voltage

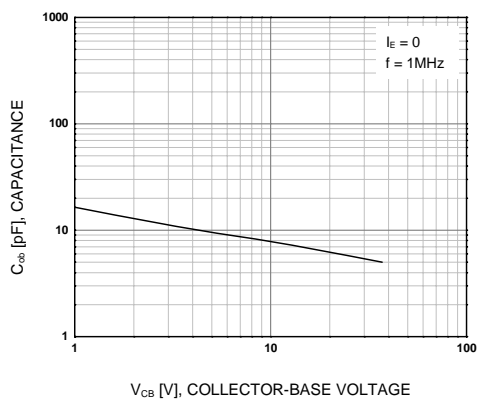


Figure 5. Collector Output Capacitance

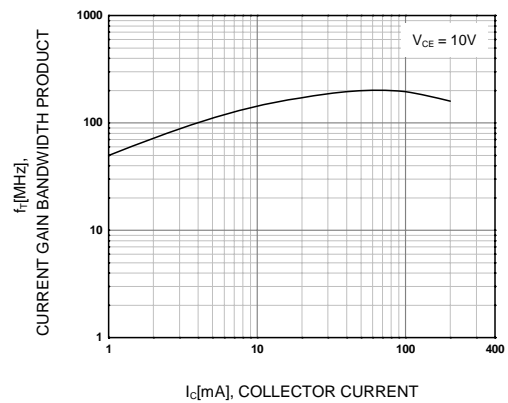


Figure 6. Current Gain Bandwidth Product