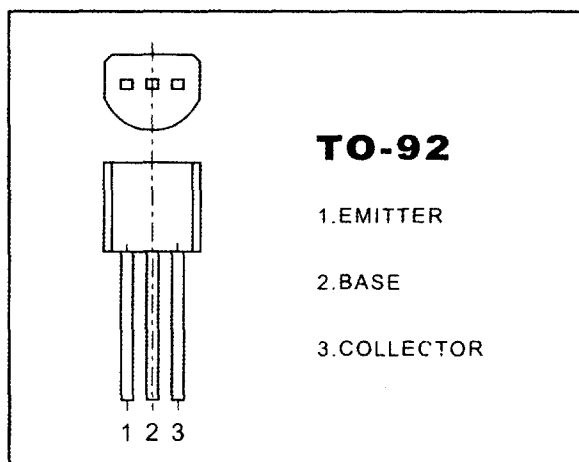


TO-92 Plastic-Encapsulate Transistors

S8050 TRANSISTOR(NPN)



FEATURES

Power dissipation

 $P_{CM}: 0.625W$ ($T_{amb}=25^{\circ}C$)

Collector current

 $I_{CM}: 0.5 A$

Collector-base voltage

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

Operating and storage junction temperature range

 $T_J, T_{slg}: -55^{\circ}C$ to $+150^{\circ}C$

ELECTRICAL CHARACTERISTICS

 $(T_{amb}=25^{\circ}C$ unless otherwise specified)

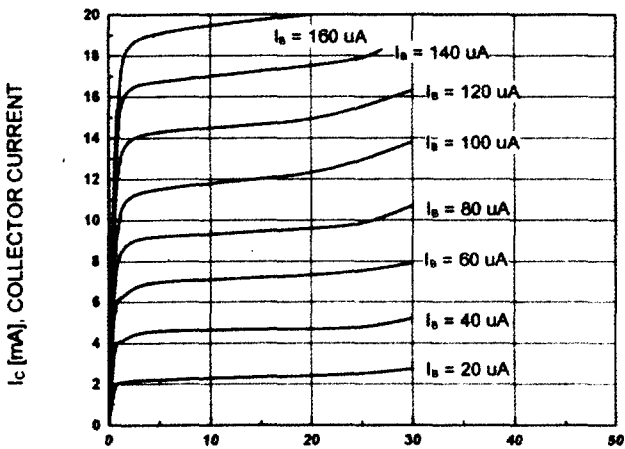
Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1 mA, I_B = 0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB} = 40 V, I_E = 0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20 V, I_B = 0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -3 V, I_C = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1 V, I_C = 50 mA$	85	300	
	$h_{FE(2)}$	$V_{CE} = 1 V, I_C = 500 mA$	50		
Collector-emitter saturation voltage	V_{CEsat}	$I_C = 500 mA, I_B = 50 mA$		0.6	V
Base-emitter saturation voltage	V_{BEsat}	$I_C = 500 mA, I_B = 50 mA$		1.2	V
Base-emitter voltage	V_{BE}	$I_E = 100 mA$		1.4	V
Transition frequency	f_T	$V_{CE} = 6 V, I_C = 20 mA$ $f = 30 MHz$	150		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	A	B	C
Range	85-160	120-200	160-300

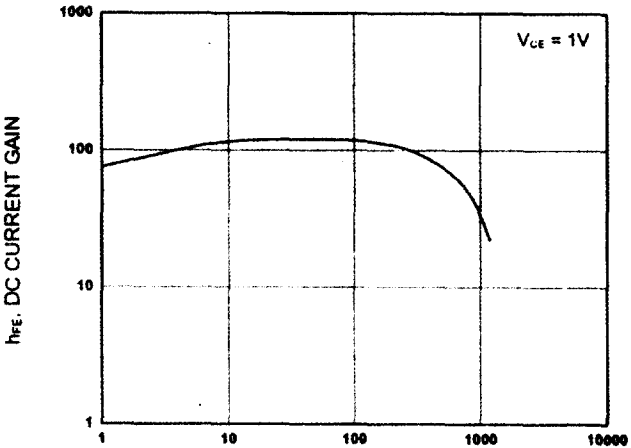
Typical Characteristics

S8050



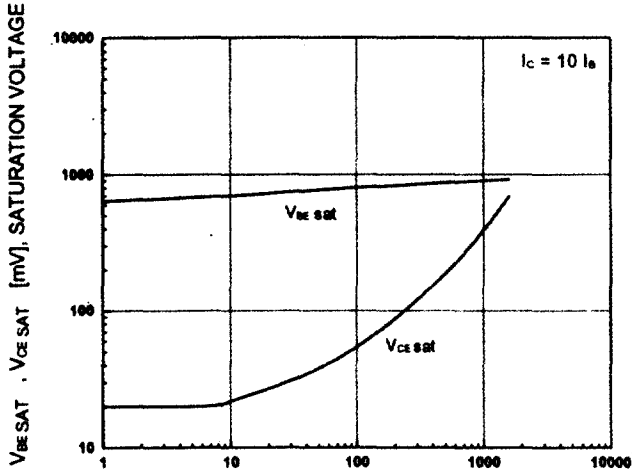
V_{ce} [V], COLLECTOR-EMITTER VOLTAGE

Static Characteristic



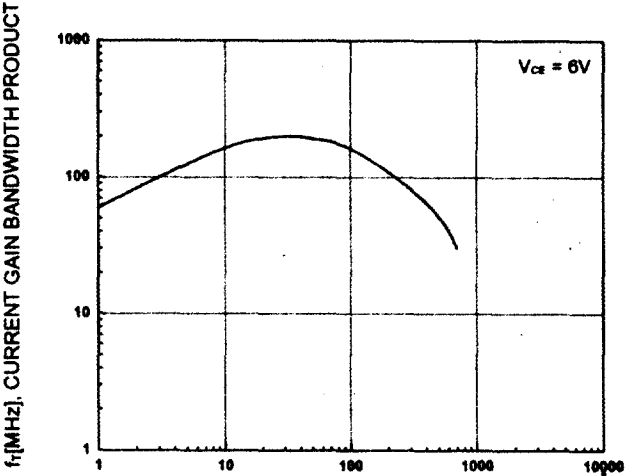
I_c [mA], COLLECTOR CURRENT

DC current Gain



I_c [mA], COLLECTOR CURRENT

**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



I_c [mA], COLLECTOR CURRENT

Current Gain Bandwidth Product