



TO-92 Plastic-Encapsulate Transistors

M8050 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM} : 0.625 \text{ W (} T_{amb}=25 \text{)}$$

Collector current

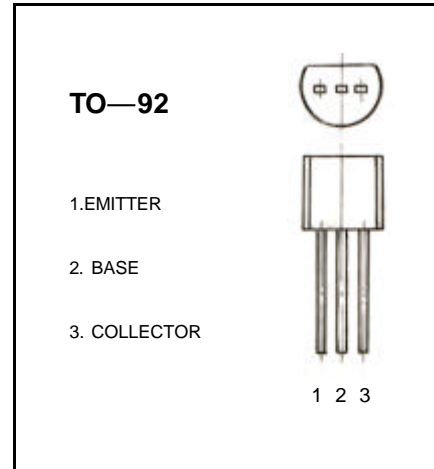
$$I_{CM} : 1 \text{ A}$$

Collector-base voltage

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

Operating and storage junction temperature range

$$T_J , T_{stg} : -55 \text{ to } +150$$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25$ unless otherwise specified)

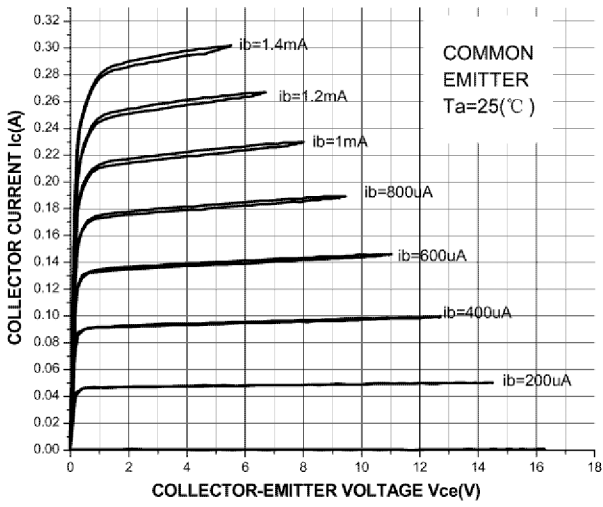
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A , I_E = 0$	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = 0.1mA , I_B = 0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A , I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB} = 35V , I_E = 0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20V , I_B = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1V , I_C = 5mA$	45		
	$h_{FE(2)}$	$V_{CE} = 1V , I_C = 100mA$	80	300	
	$h_{FE(3)}$	$V_{CE} = 1V , I_C = 800mA$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800mA , I_B = 80mA$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800mA , I_B = 80mA$		1.2	V
Transition frequency	f_T	$V_{CE} = 6V , I_C = 20mA , f = 30MHz$	150		MHz

* Pulse Test : pulse width 300 μs , duty cycle 2%.

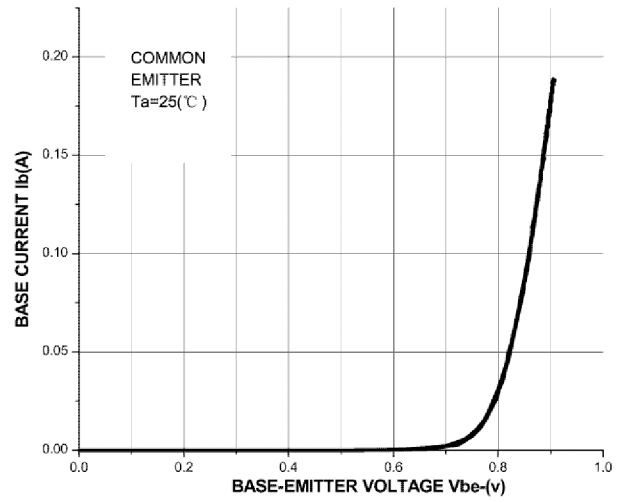
Typical Characteristics

M8050

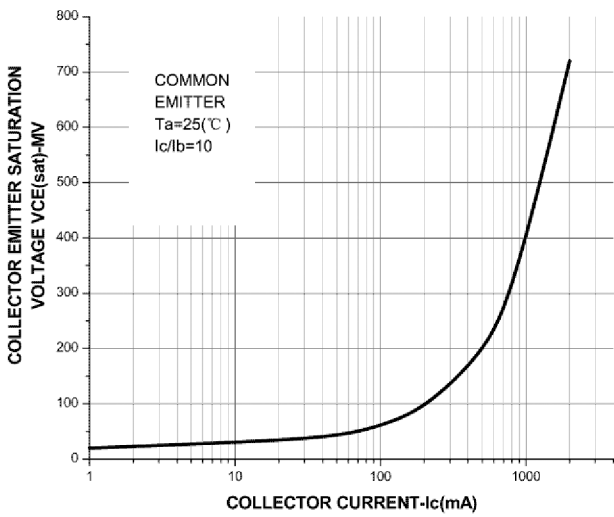
Ic-Vce



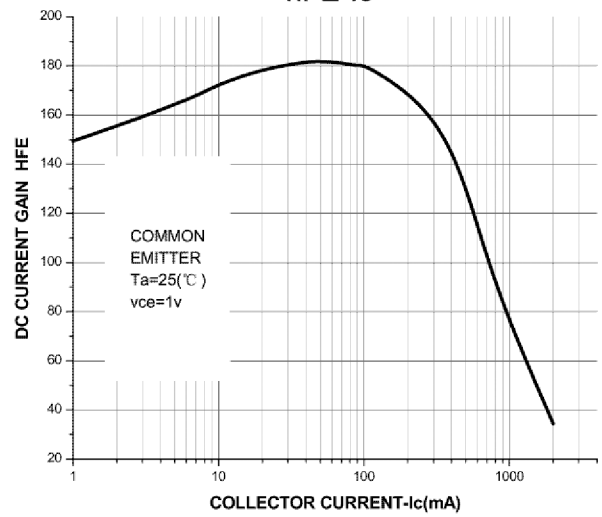
Ib-Vbe



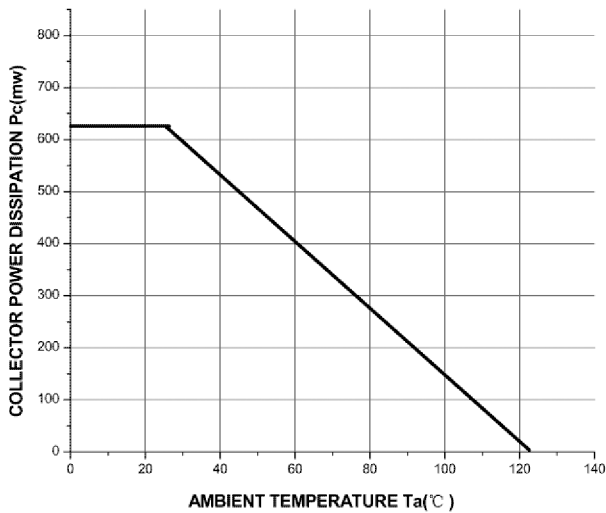
Vcesat-Ic



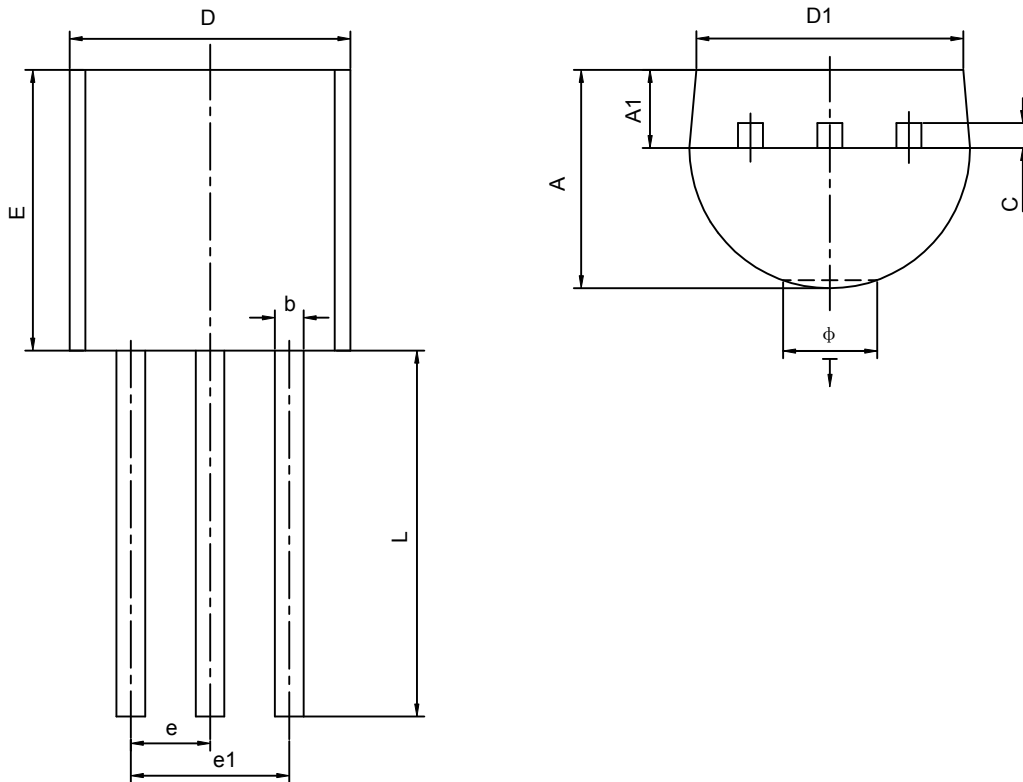
hFE-Ic



Pc-Ta



TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
↓	0.000	0.380	0.000	0.015