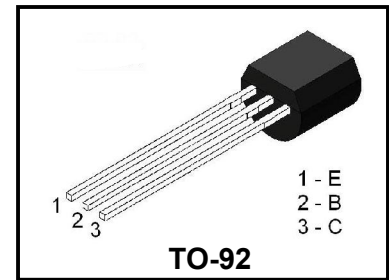


NPN Plastic-Encapsulate Transistors

General Purpose Amplifier

◆ This device is for use as a medium power amplifier and switch requiring collector currents up to 600mA.



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	75	V
Collector-Emitter Voltage	BV_{CEO}	40	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 10\mu A, I_E = 0$	75			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	40			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			10	nA
Collector cut-off current	I_{CEO}	$V_{CE} = 35V, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			10	nA
DC current gain	h_{FE}	$V_{CE}=10V, I_B=0.1mA$ $V_{CE}=10V, I_B=150mA$	35 100		300	
*Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			0.5	V
*Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$			1.2	V
Transition frequency	f_T	$V_{CE} = 20V, I_B = 20mA$	300			MHz

* Pulse Test: PW=300 μ s, duty Cycle=2% Pulsed

Typical Characteristics

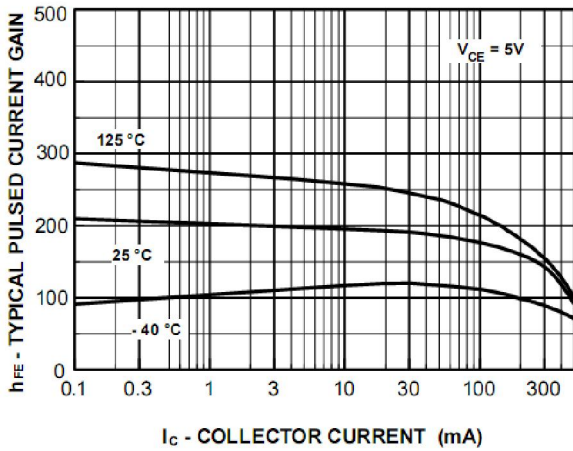


Figure 1. Typical Pulsed Current Gain

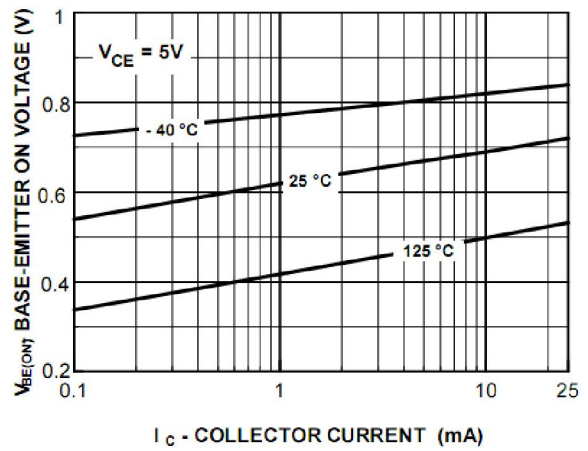


Figure 2. Base-Emitter on Saturation Voltage

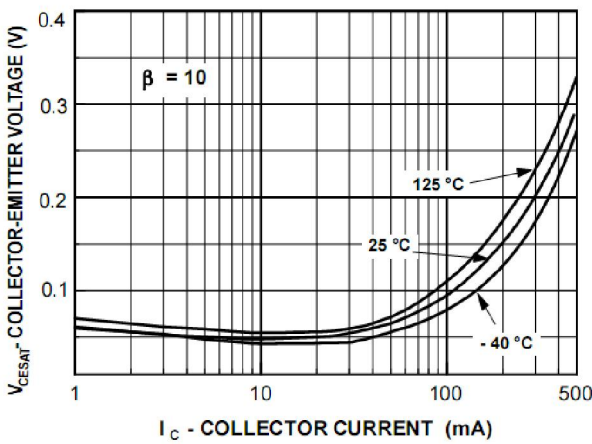


Figure 3. Collector-Emitter Saturation Voltage

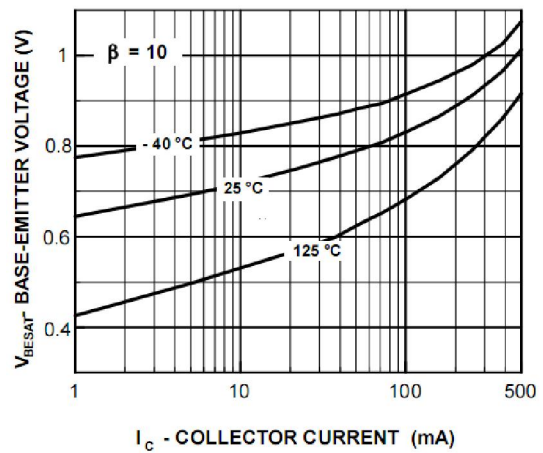


Figure 4. Base-Emitter Saturation Voltage

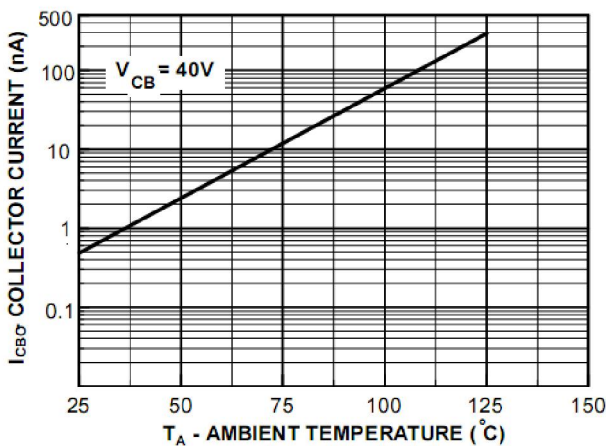


Figure 5. Current Gain Bandwidth Product

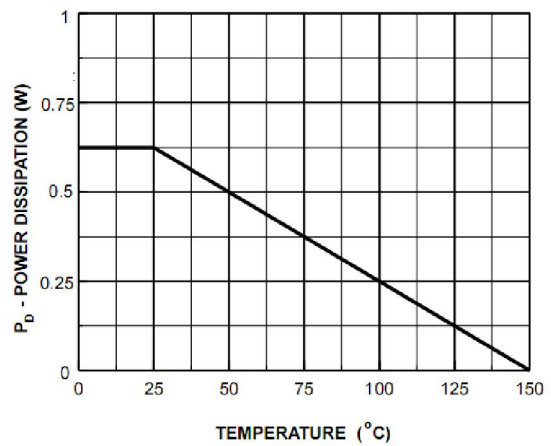


Figure 6. Power Derating

Package Dimensions

TO-92

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

Package	Packing Method	Pack ountity
TO-92	Bulk	1000pcs/Bag
TO-92	Tape	2000pcs/Box