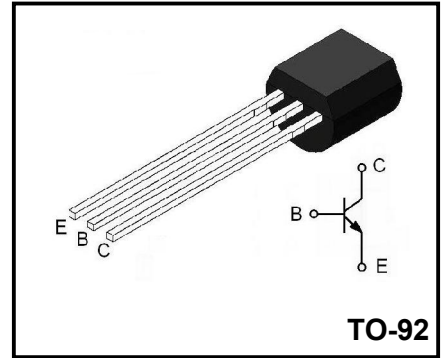


**NPN Plastic-Encapsulate Transistors**  
**General Purpose Amplifier**



**Absolute Maximum Rating (Ta=25°C)**

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$BV_{CBO}$	180	V
Collector-Emitter Voltage	$BV_{CEO}$	160	V
Emitter-Base Voltage	$BV_{EBO}$	6	V
Collector Current	$I_C$	100	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	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	180			V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = 1mA, I_B = 0$	160			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = 100\mu A, I_C = 0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 120V, I_E = 0$			50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$			50	nA
DC current gain	$h_{FE}$	$V_{CE} = 5V, I_C = 1mA$	80			
		$V_{CE} = 5V, I_C = 10mA$	80		250	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$			0.2	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5mA$			1.0	V
Transition frequency	$f_T$	$V_{CE} = 10V, I_B = 10mA$	100			MHz

Typical Characteristics

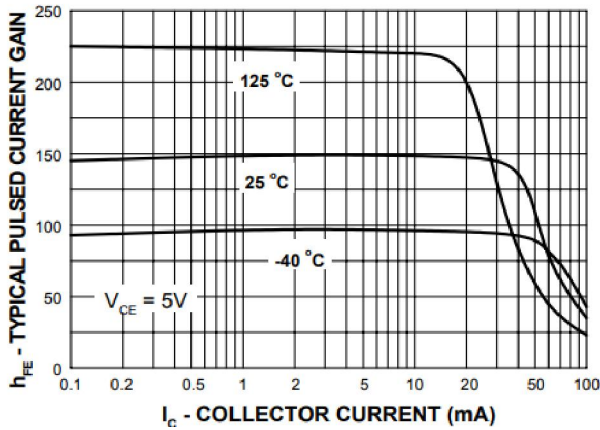


Figure 1. Typical Pulsed Current Gain vs Collector Current

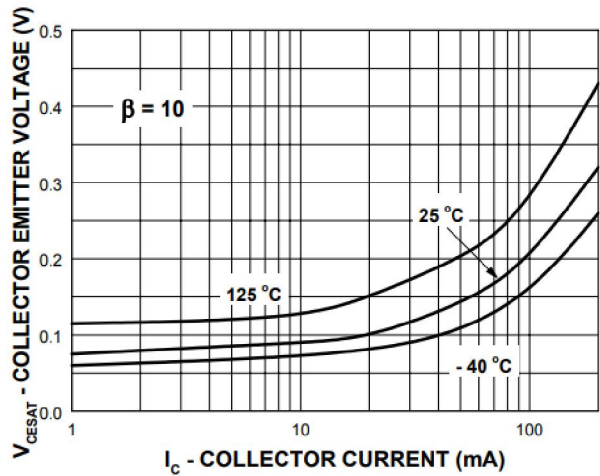


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

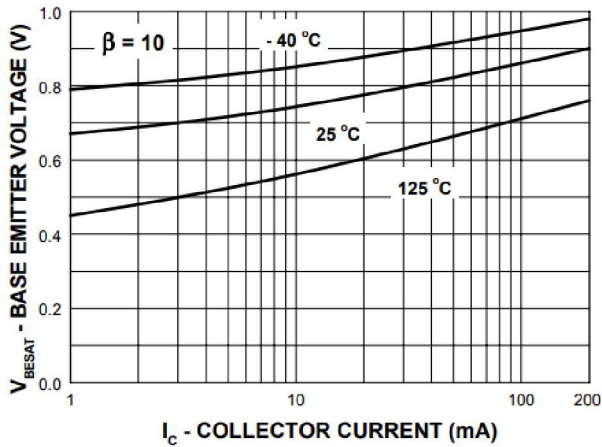


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

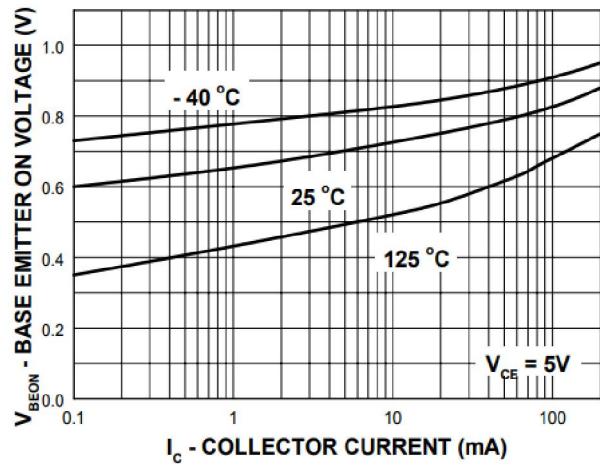


Figure 4. Base-Emitter ON Voltage vs Collector Current

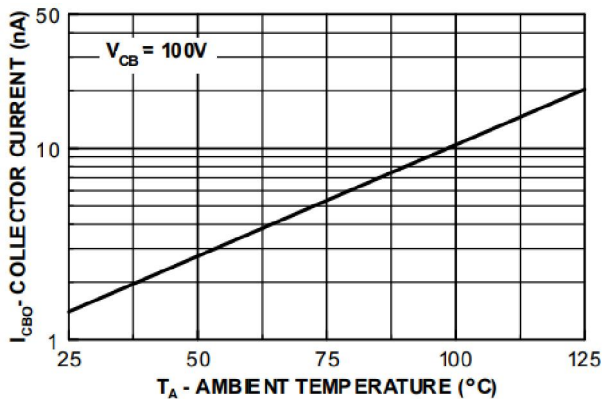


Figure 5. Collector-Cutoff Current vs Ambient Temperature

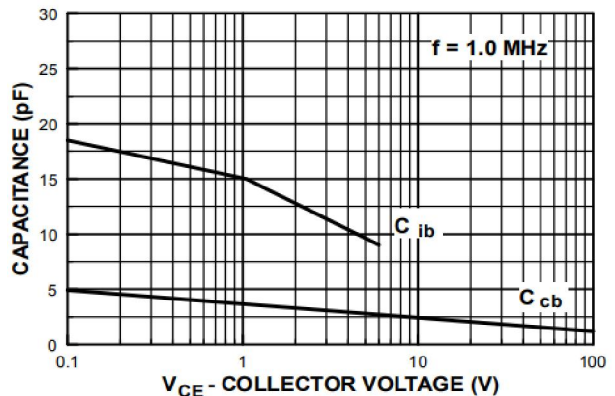


Figure 6. Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base

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 Quantity
TO-92	Bulk	1000pcs/Bag
TO-92	Tape	2000pcs/Box