

### NPN Silicon General Purpose Transistors

 Lead(Pb)-Free

#### FEATURES

Power dissipation

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

Collector current

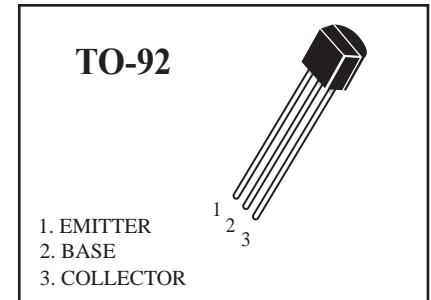
$$I_{CM} : 0.6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 60 \text{ V}$$

Operating and storage junction temperature range

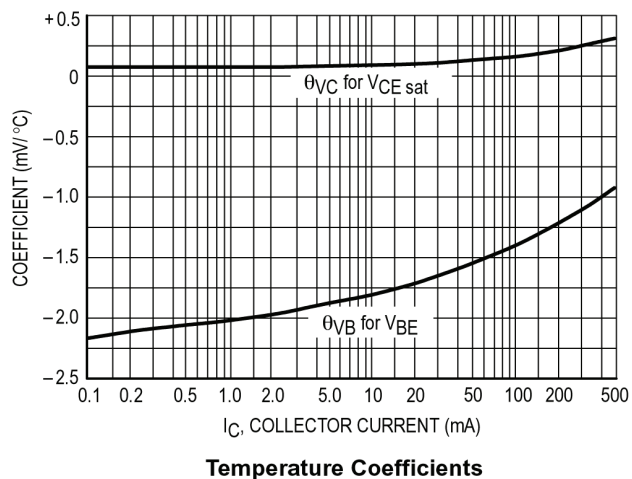
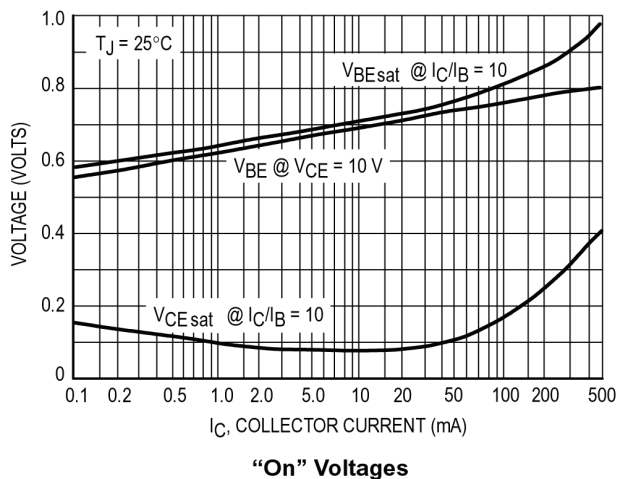
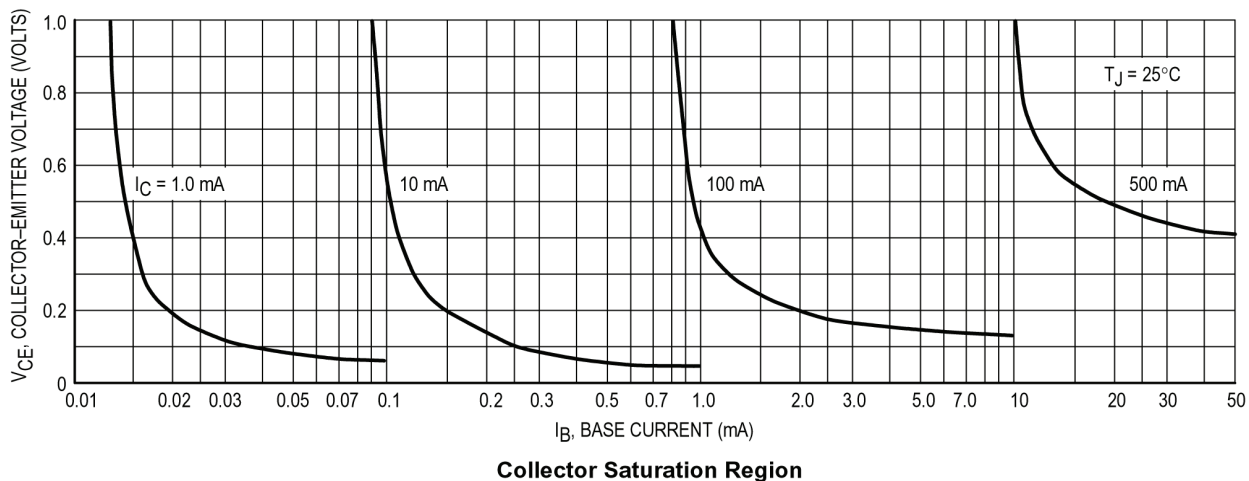
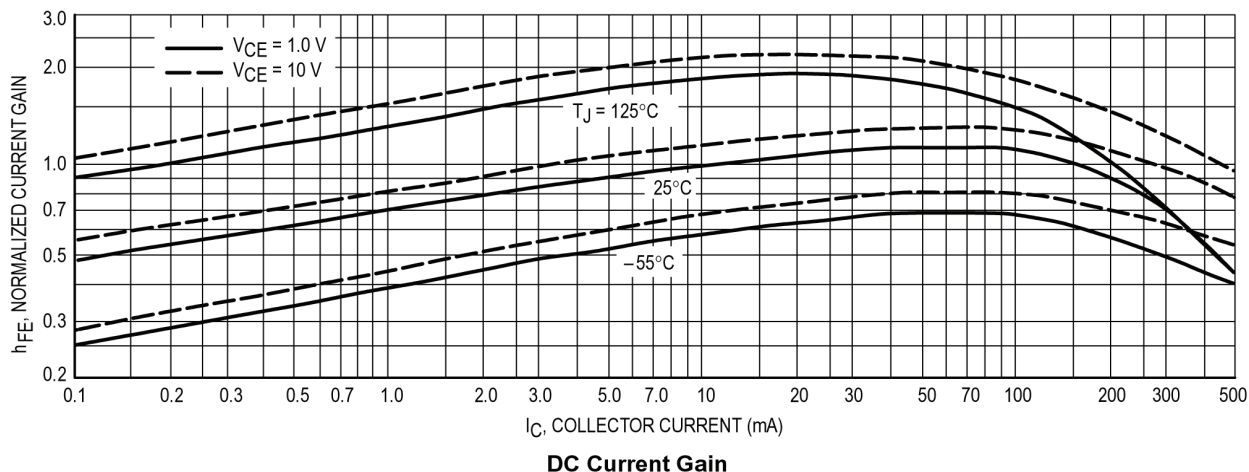
$$T_J, T_{stg} : -55 \text{ to } +150$$



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

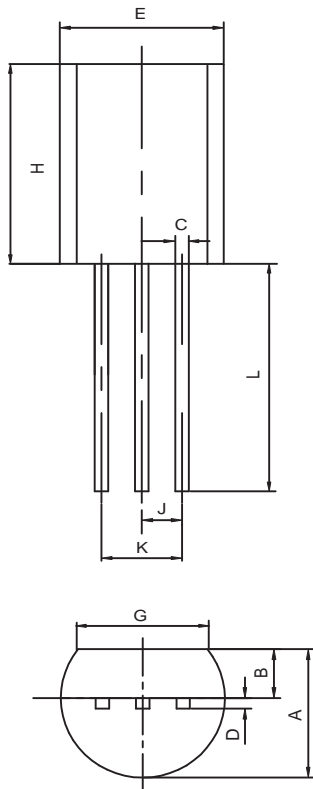
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100 \mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1 \text{ mA}, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100 \mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=50 \text{ V}, I_E=0$		0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=35 \text{ V}, I_B=0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5 \text{ V}, I_C=0$		0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=1 \text{ V}, I_C=150 \text{ mA}$	100	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=150 \text{ mA}, I_B=15 \text{ mA}$		0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=150 \text{ mA}, I_B=15 \text{ mA}$		0.95	V
Transition frequency	$f_T$	$V_{CE}=10 \text{ V}, I_C=20 \text{ mA}$ $f = 100 \text{ MHz}$	250		MHz

## Typical Characteristics



## TO-92 Outline Dimensions

unit:mm



TO-92		
Dim	Min	Max
A	3.30	3.70
B	1.10	1.40
C	0.38	0.55
D	0.36	0.51
E	4.40	4.70
G	3.43	-
H	4.30	4.70
J	1.270TYP	
K	2.44	2.64
L	14.10	14.50