

## TO-92 Plastic-Encapsulate Transistors

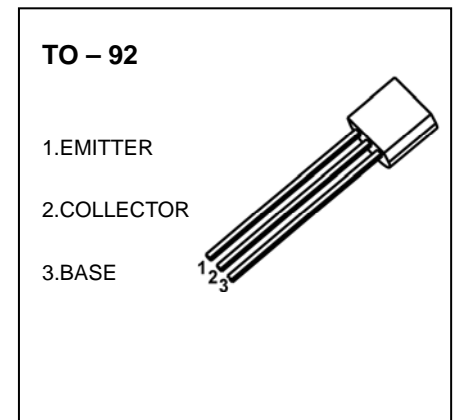
### STBV32/B TRANSISTER (NPN)

#### FEATURES

- Medium Voltage Capability
- Low Spread of Dynamic Parameters
- Minimum Lot-to-lot Spread for Reliable Operation
- Very High Switching Speed

#### APPLICATIONS

- Electronic Ballasts for Fluorescent Lighting



#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

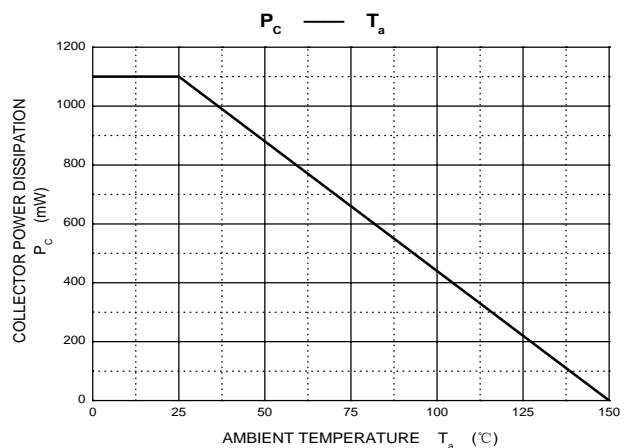
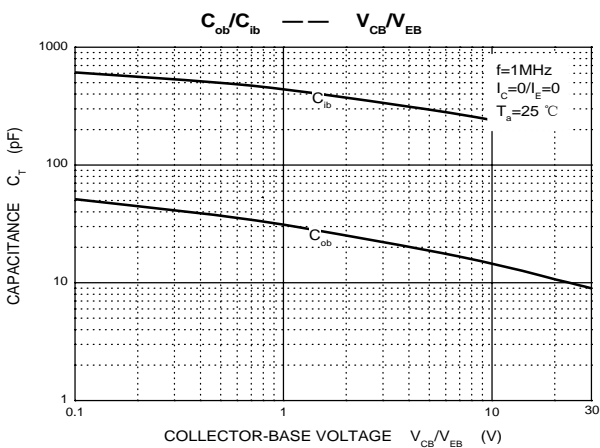
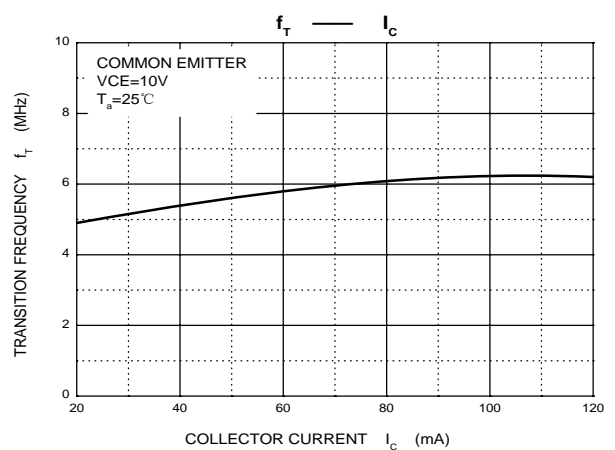
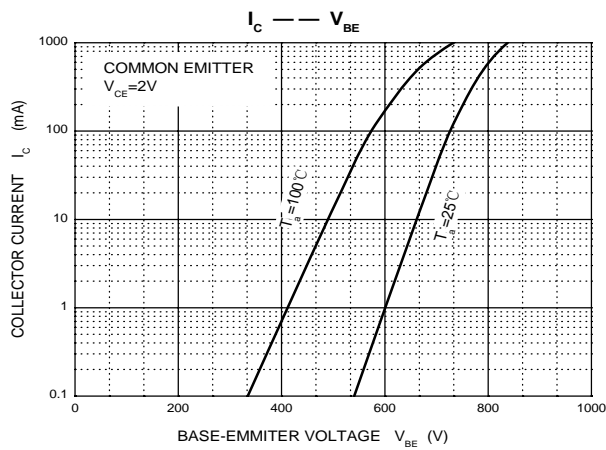
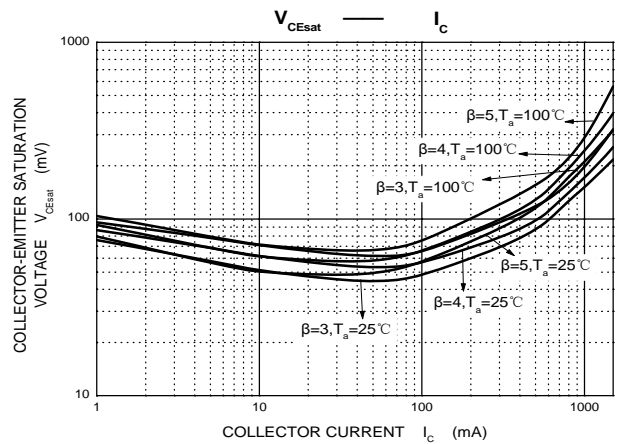
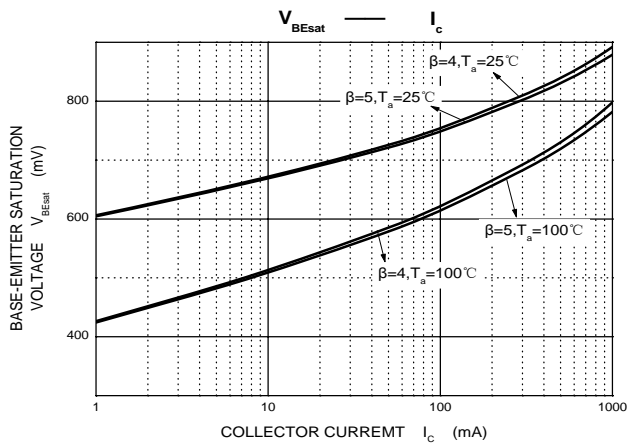
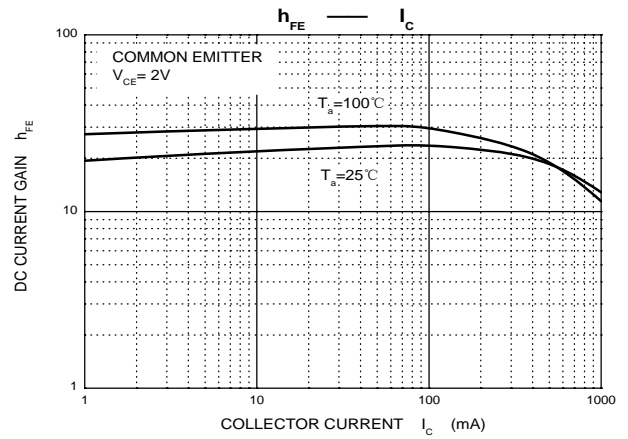
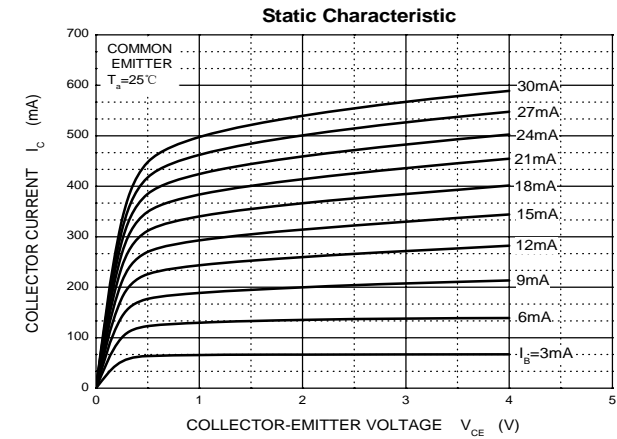
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	700	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current	1	A
$P_C$	Collector Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	114	$^{\circ}\text{C/W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}^*$	$I_C=1\text{mA}, I_E=0$	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\text{mA}, I_C=0$	9			V
Collector cut-off current	$I_{CEO}$	$V_{BE}=-1.5\text{V}, V_{CE}=700\text{V}$			1	mA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7\text{V}, I_C=0$			100	$\mu\text{A}$
DC current gain	$h_{FE(1)}^*$	$V_{CE}=2\text{V}, I_C=0.5\text{A}$	8		35	
	$h_{FE(2)}^*$	$V_{CE}=2\text{V}, I_C=1\text{A}$	5		25	
Collector-emitter saturation voltage	$V_{CE(sat)(1)}^*$	$I_C=0.5\text{A}, I_B=0.1\text{A}$			0.5	V
	$V_{CE(sat)(2)}^*$	$I_C=1\text{A}, I_B=0.25\text{A}$			1	V
	$V_{CE(sat)(3)}^*$	$I_C=1.5\text{A}, I_B=0.5\text{A}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)(1)}^*$	$I_C=0.5\text{A}, I_B=0.1\text{A}$			1	V
	$V_{BE(sat)(2)}^*$	$I_C=1\text{A}, I_B=0.25\text{A}$			1.2	V

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycles  $\leq 1.5\%$ .

# Typical Characteristics



## 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	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

## TO-92 Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

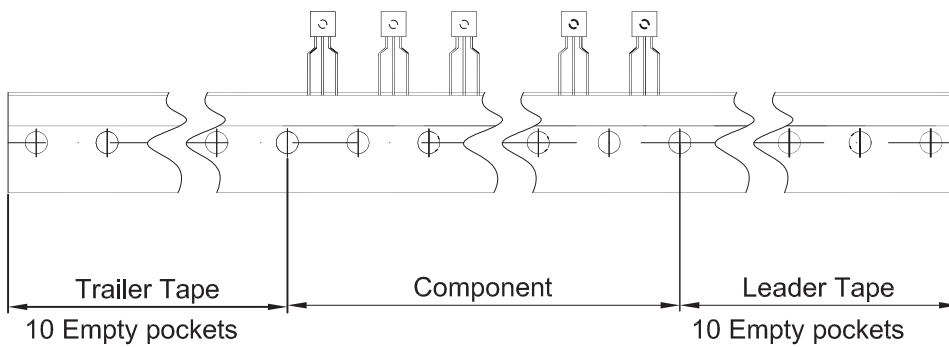
### NOTICE

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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250