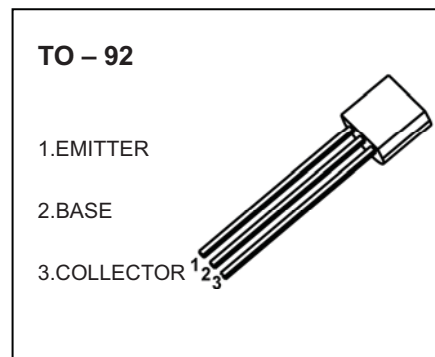
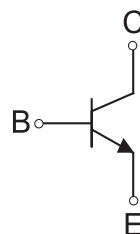


FEATURES

- High Breakdown Voltage


Equivalent Circuit

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MPSA44	TO-92	Bulk	1000pcs/Bag
MPSA44-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	400	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EB0}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	0.3	A
P _D	Collector Power Dissipation	625	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	200	°C /W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

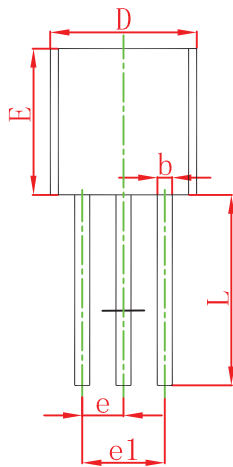
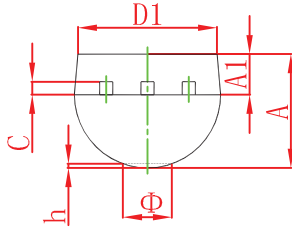
ELECTRICAL CHARACTERISTICS

$T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = 1\text{mA}, I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{mA}, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 400\text{V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$	40			
	$h_{FE(2)}^*$	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	50		200	
	$h_{FE(3)}^*$	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	45			
	$h_{FE(4)}^*$	$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}^*$	$I_C = 1\text{mA}, I_B = 0.1\text{mA}$			0.4	V
	$V_{CE(sat)(2)}^*$	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.5	
	$V_{CE(sat)(3)}^*$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.75	
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.75	V
Collector output capacitance	C_{ob}	$V_{CB} = 20\text{V}, I_E = 0, f = 1\text{MHz}$			7	pF
Emitter input capacitance	C_{ib}	$V_{EB} = 0.5\text{V}, I_C = 0, f = 1\text{MHz}$			130	pF

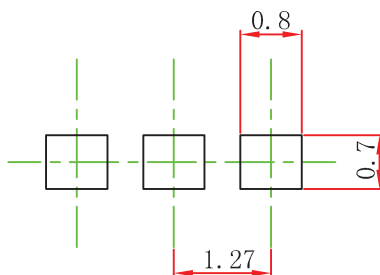
*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$.

TO-92 Package Outline Dimensions



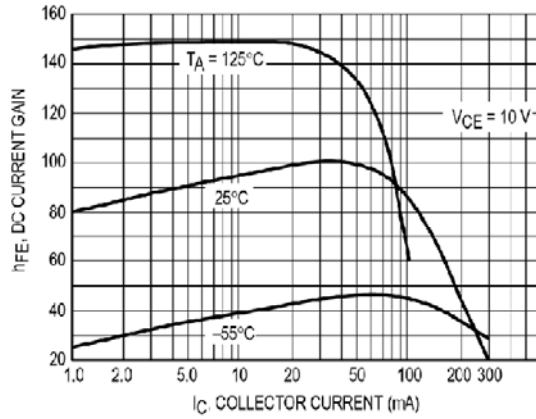
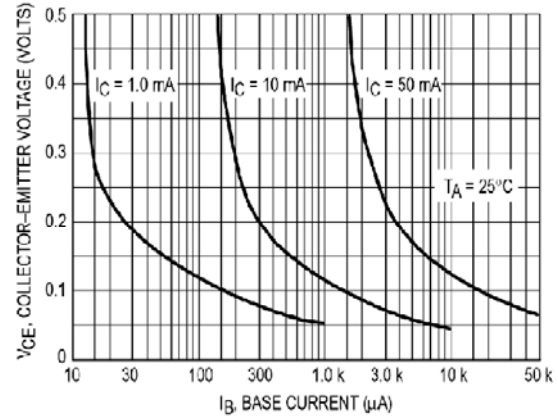
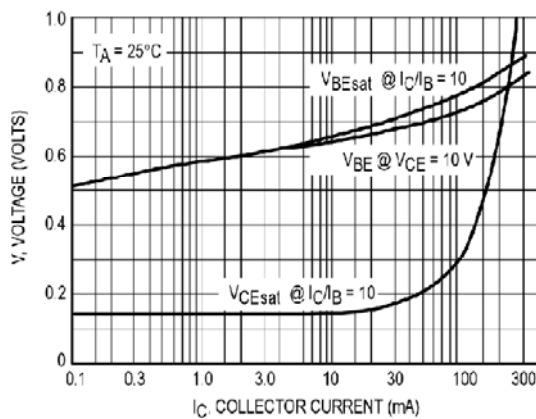
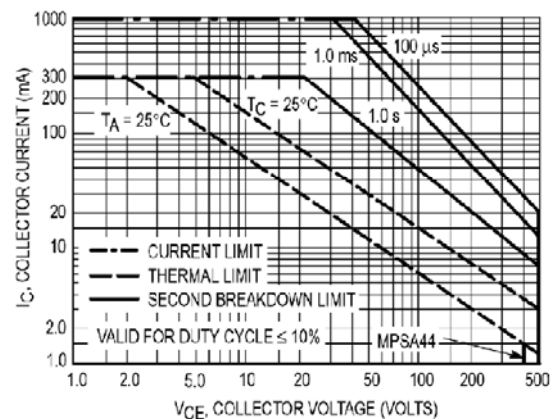
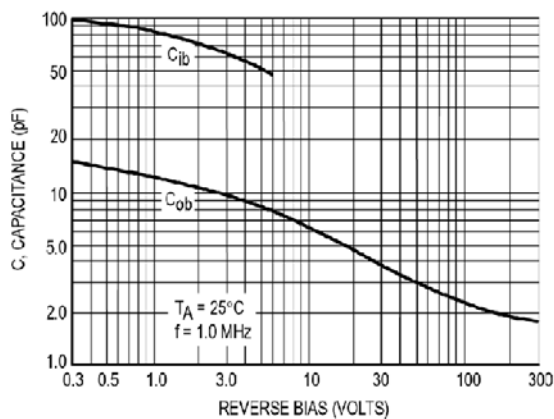
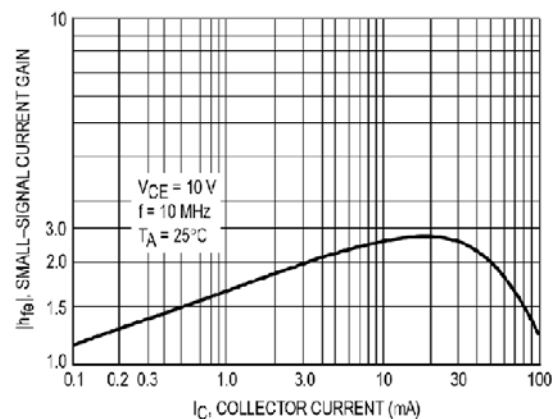
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100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

Typical Characteristics

DC Current Gain

Collector Saturation Region

"On" Voltages

Active Region — Safe Operating Area

Capacitance

High Frequency Current Gain