EN: This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at www.hestore.hu.

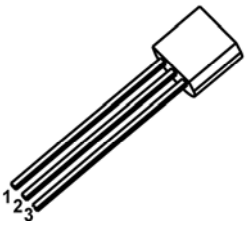
TO-92 Plastic-Encapsulate Transistors

TO – 92

1.EMITTER

2.BASE

3.COLLECTOR



FEATURES

- High Current Gain Bandwidth Product

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Power Dissipation	0.4	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	312.5	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

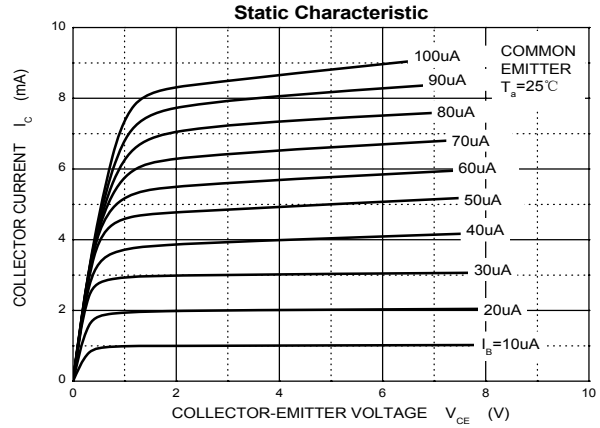
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

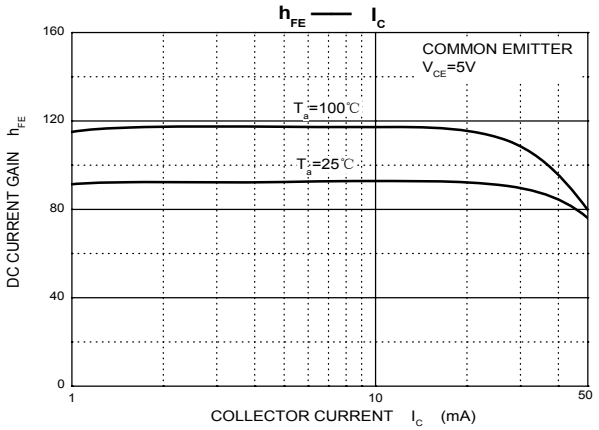
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=0.1mA,I_B=0	18			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	4			V
Collector cut-off current	I_{CBO}	V_{CB}=20V,I_E=0			0.1	nA
Collector cut-off current	I_{CEO}	V_{CE}=15V,I_B=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=3V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=5V, I_C=1mA	28		270	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA,I_B=1mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA,I_B=1mA			1.42	V
Transition frequency	f_T	V_{CE}=5V,I_C=50mA,f=400MHz		800		MHz

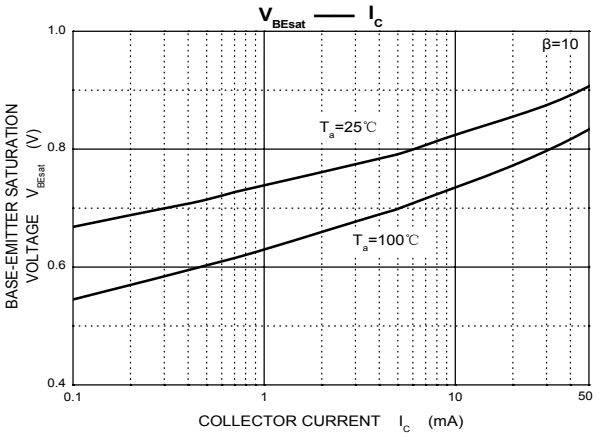
CLASSIFICATION OF h_{FE}

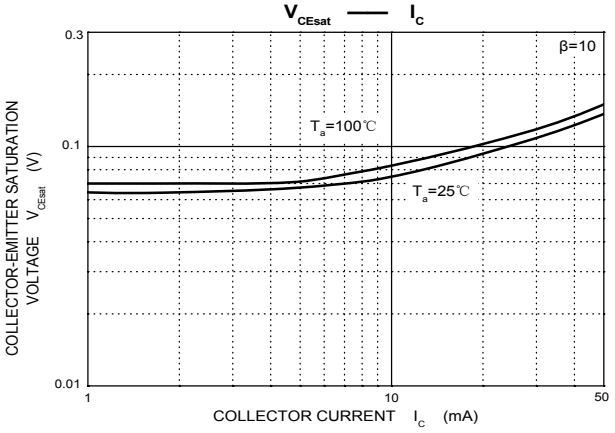
RANK	D	E	F	G	H	I	J
RANGE	28-45	39-60	54-80	72-108	97-146	132-198	180-270

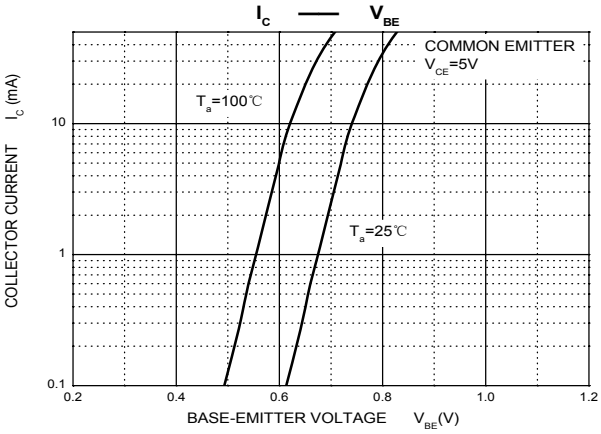
Typical Characteristics

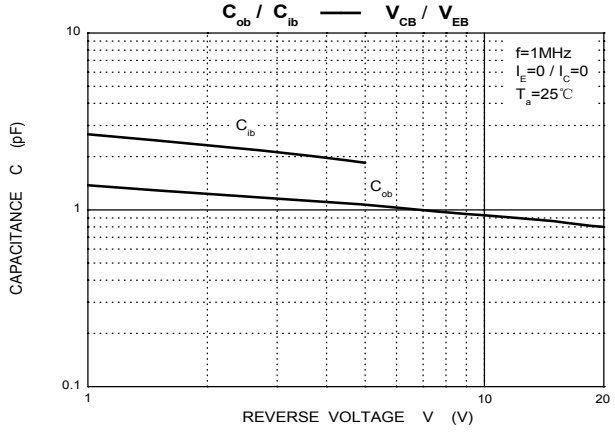


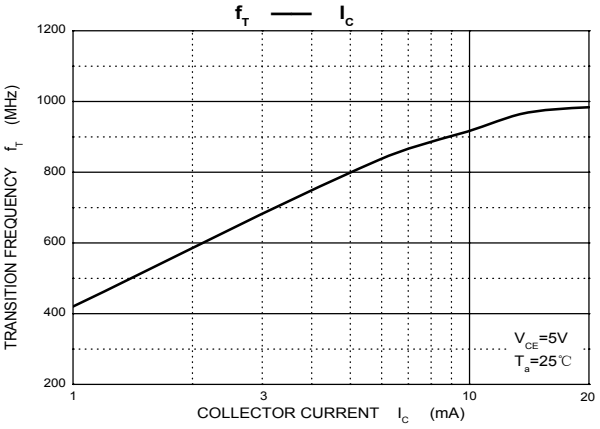


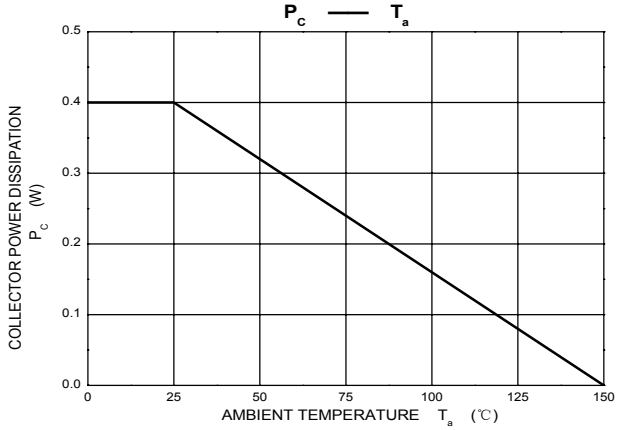




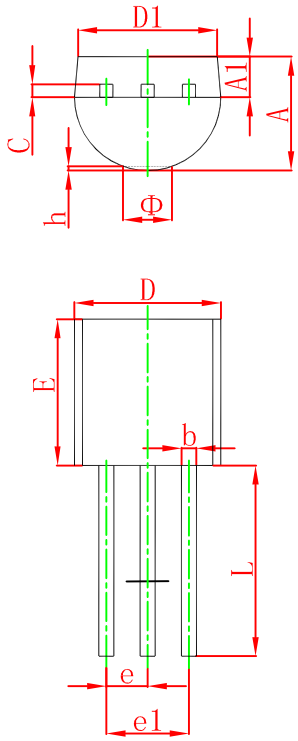






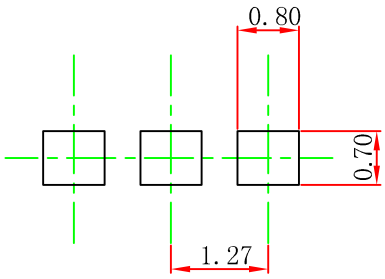


TO-92 Package Outline Dimensions



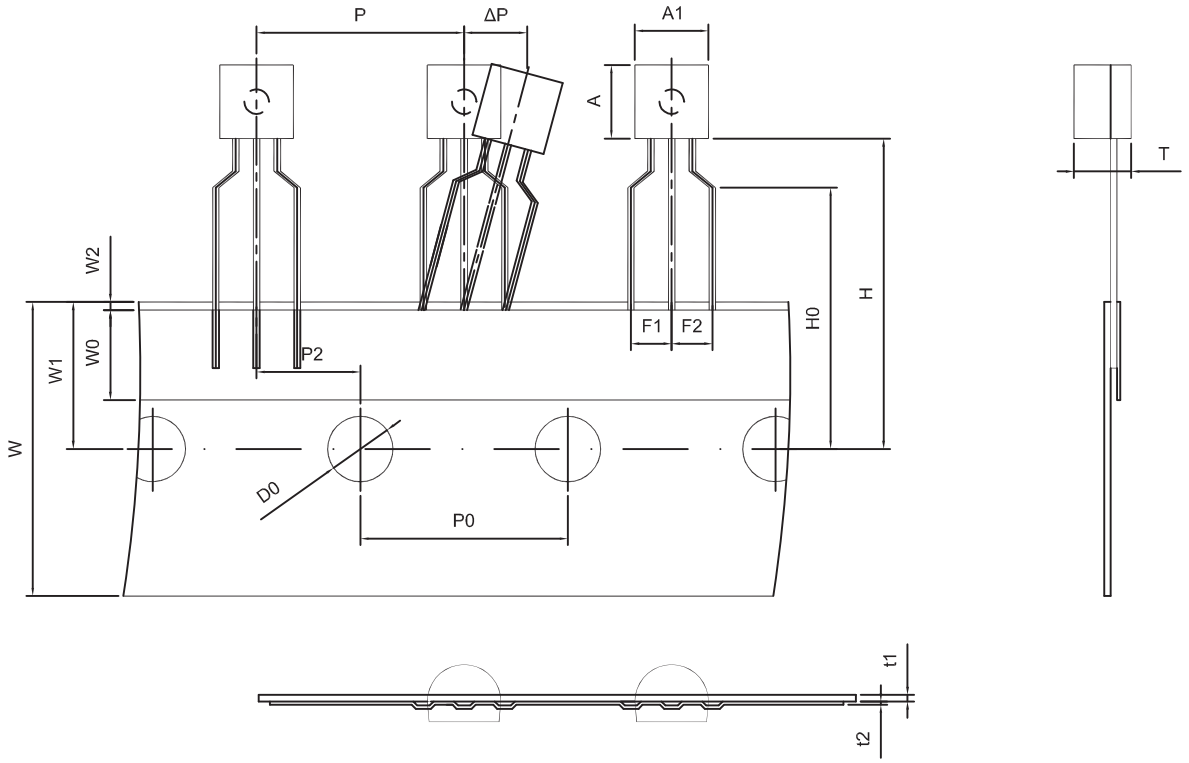
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100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

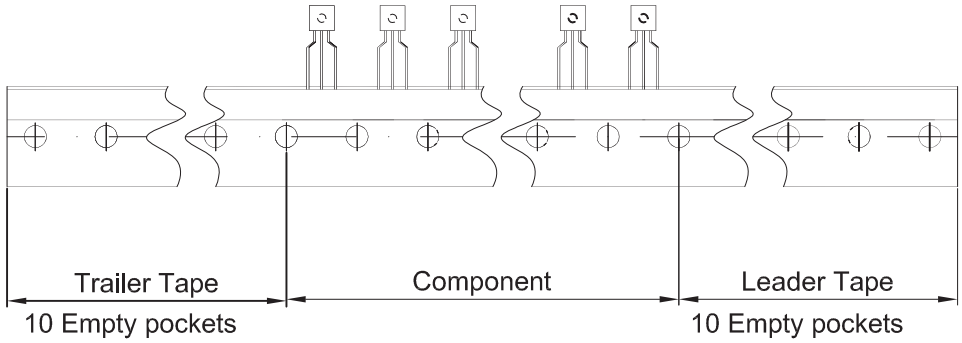


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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