JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

3DD13001 TRANSISTOR（NPN）

FEATURES

Power dissipation

P_{CM} : 1.25 W（Tamb=25℃）

Collector current

I_{CM} : 0.2 A

Collector-base voltage

$V_{(BR)CBO}$: 600 V

Operating and storage junction temperature range

T_J，T_{stg}: -55℃ to +150℃

TO—92

1.BASE

2.COLLECTOR

3.EMITTER

1 2 3

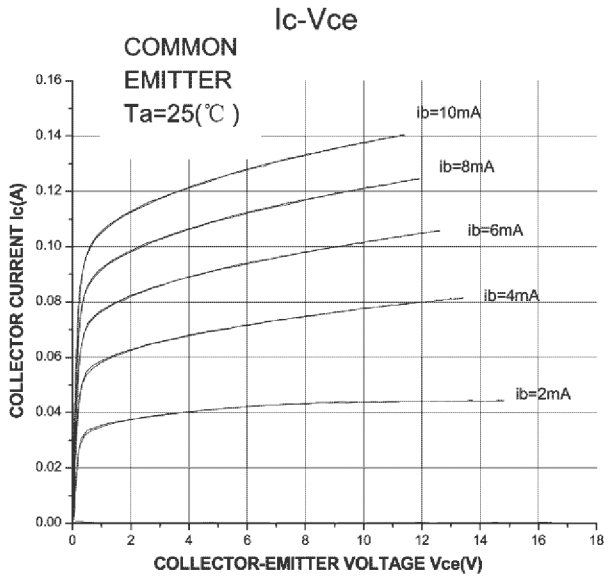
ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

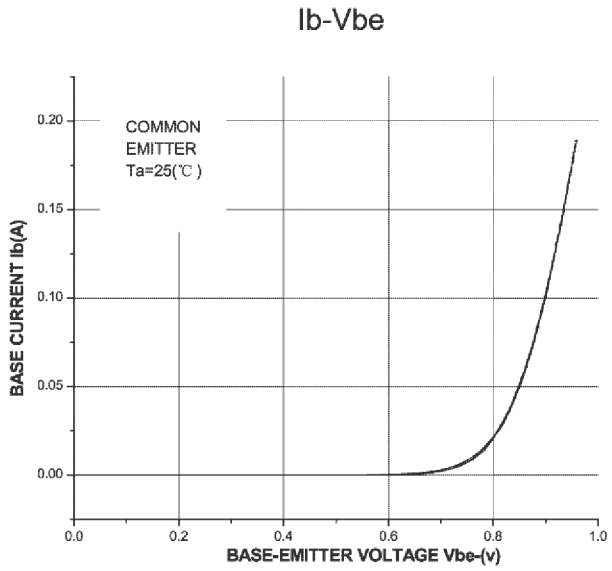
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	I_C= 100μA，I_E=0	600			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	I_C= 1 mA，I_B=0	400			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= 100 μA，I_C=0	7			V
Collector cut-off current	I_{CBO}	V_{CB}= 600 V，I_E=0			100	μA
Collector cut-off current	I_{CEO}	V_{CE}= 400 V，I_B=0			200	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 7 V，I_C=0			100	μA
DC current gain	$h_{FE\ (1)}$	V_{CE}= 20 V, I_C= 20mA	10		70	
	$h_{FE\ (2)}$	V_{CE}= 10V, I_C= 0.25 mA	5			
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= 50mA, I_B= 10 mA			0.5	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C= 50 mA, I_B= 10mA			1.2	V
Transition frequency	f_T	V_{CE}= 20 V, I_C=20mA f = 1MHz	8			MHz
Fall time	t_f	I_C=50mA, I_{B1}=-I_{B2}=5mA, V_{CC}=45V			0.3	μs
Storage time	t_s				1.5	μs

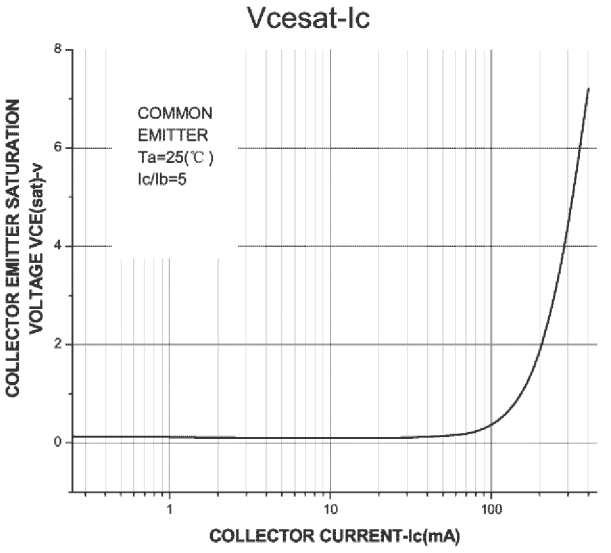
CLASSIFICATION OF $h_{FE(1)}$

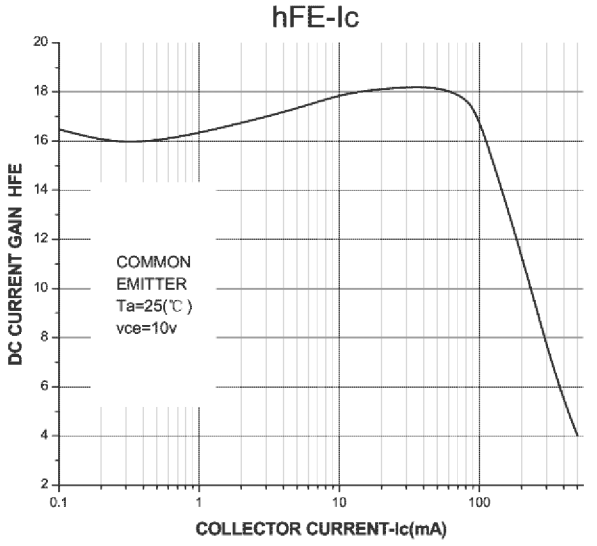
Range	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70

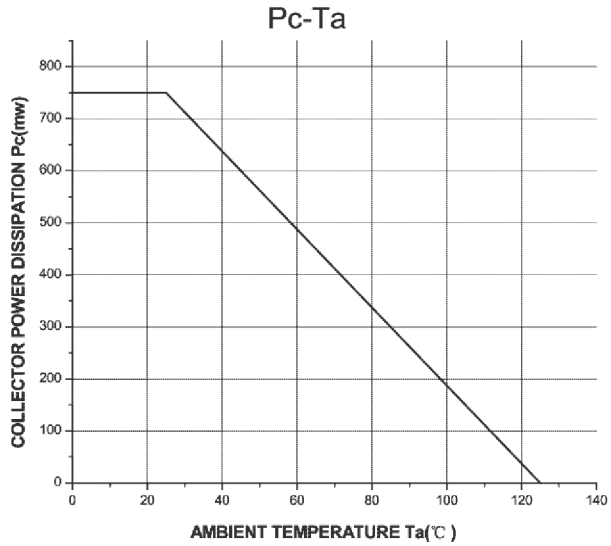
Typical Characteristics 13001



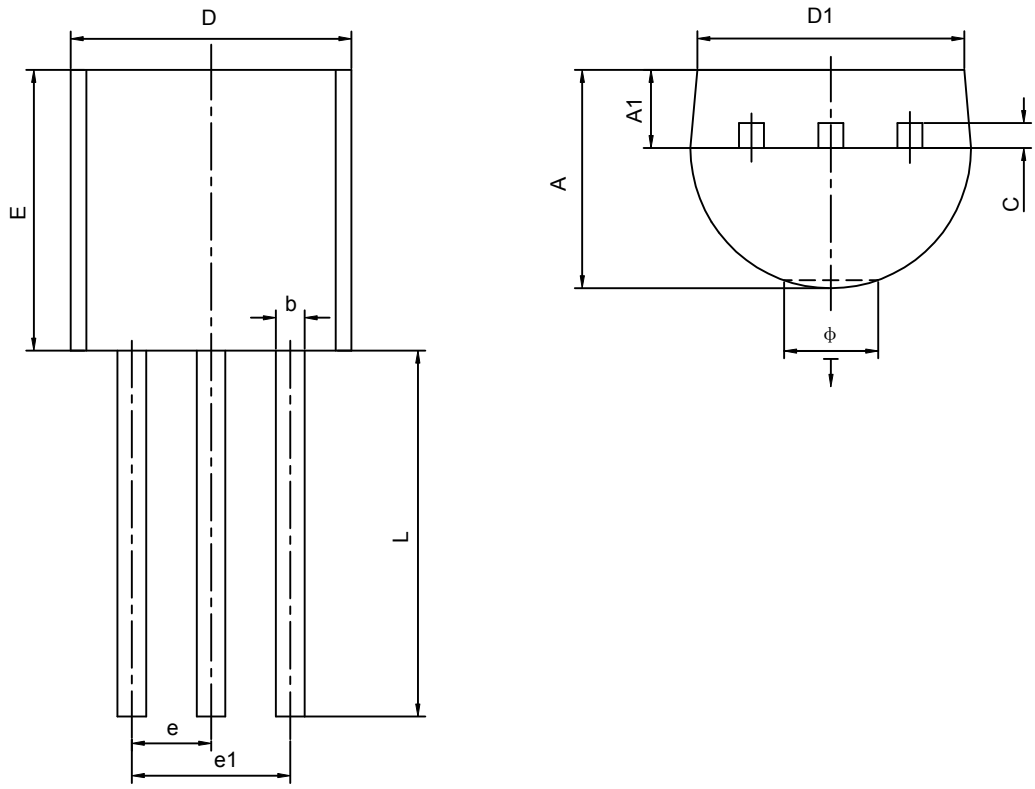








TO-92 PACKAGE OUTLINE DIMENSIONS



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	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
⊤	0.000	0.380	0.000	0.015