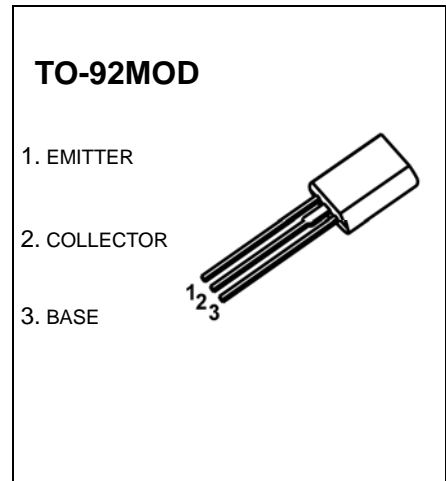


TO-92MOD Plastic-Encapsulate Transistors

2SB985 TRANSISTOR (PNP)

FEATURES

- Power Supplies, Relay Drivers, Lamp Drivers
- Adoption of FBET,MBIT Processes
- Low Saturation Voltage
- Large Current Capacity and Wide ASO

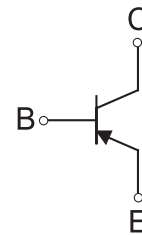


MARKING



B985=Device code
Solid dot= Green molding compound device,
if none, the normal device
XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SB985	TO-92MOD	Bulk	500pcs/Bag
2SB985-TA	TO-92MOD	Tape	2000pcs/Box

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-60	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EB0}	Emitter-Base Voltage	-6	V
I _c	Collector Current -Continuous	-3	A
P _C	Collector Power Dissipation	0.9	W
R _{θJA}	Thermal Resistance From Junction To Ambient	139	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

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

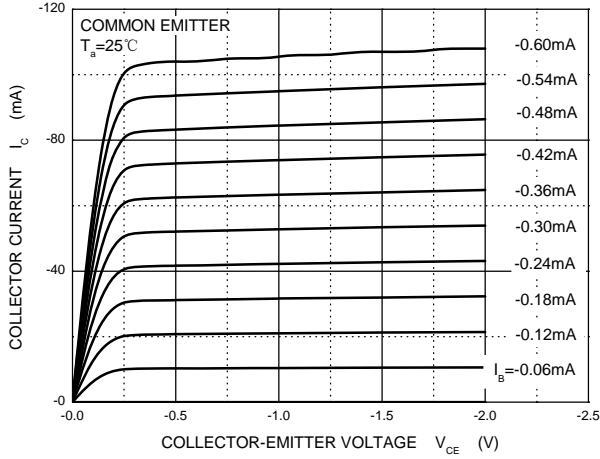
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	100		560	
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=-3\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-2\text{A}, I_B=-100\text{mA}$			-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-2\text{A}, I_B=-100\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-50\text{mA}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		39		pF

CLASSIFICATION OF $h_{FE(1)}$

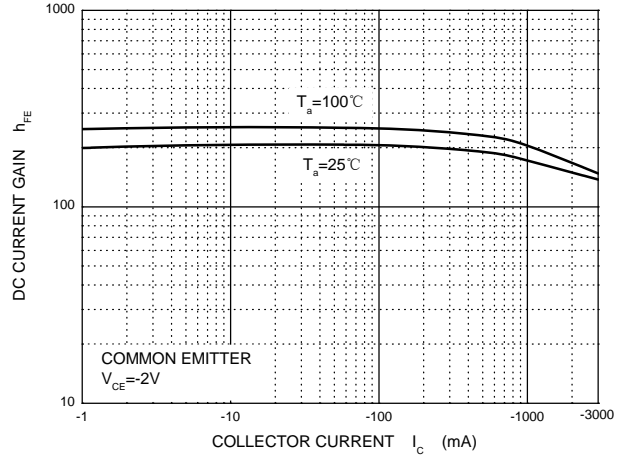
Rank	R	S	T	U
Range	100-200	140-280	200-400	280-560

Typical Characteristics

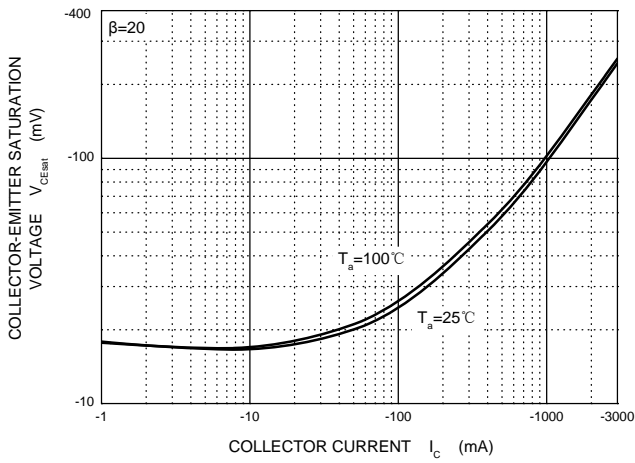
Static Characteristic



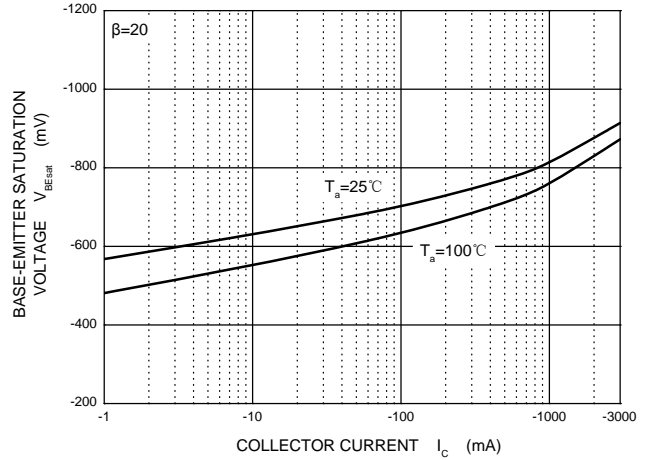
h_{FE} — I_c



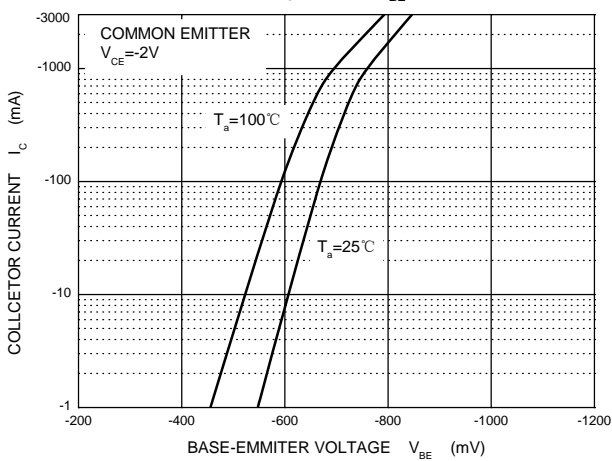
V_{CEsat} — I_c



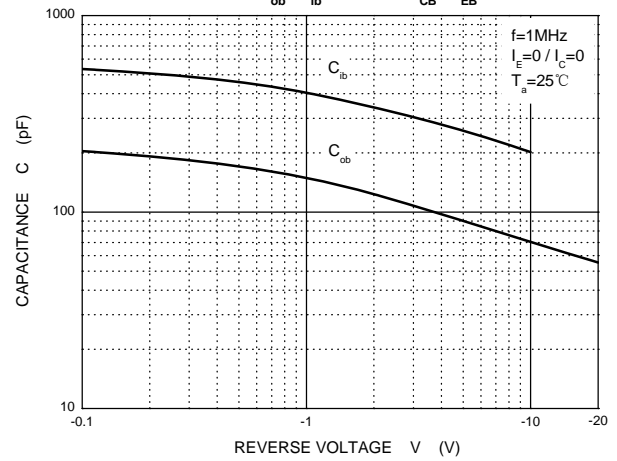
V_{BEsat} — I_c



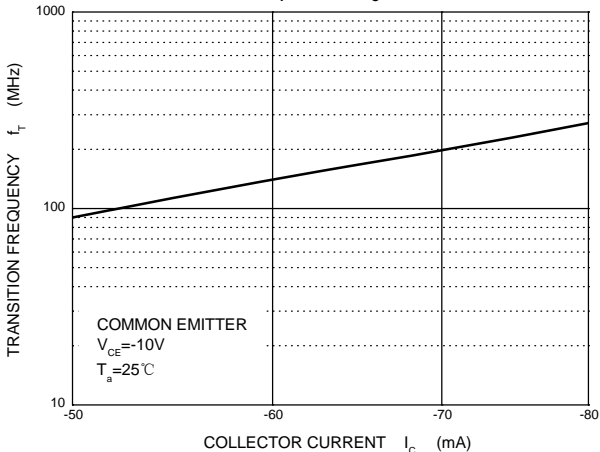
I_c — V_{BE}



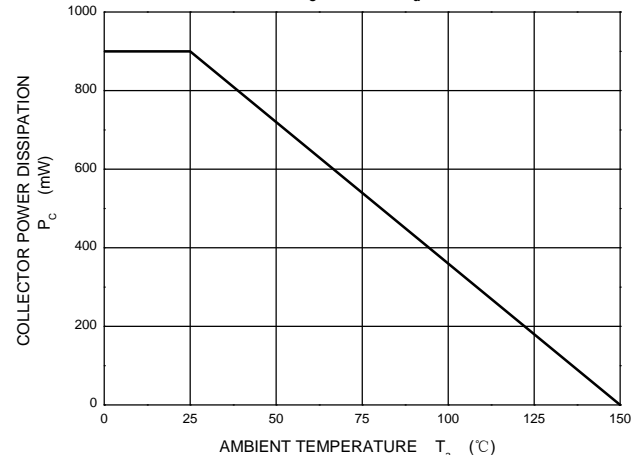
C_{ob}/C_{ib} — V_{CB}/V_{EB}



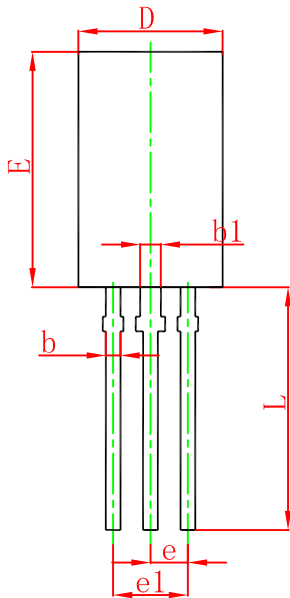
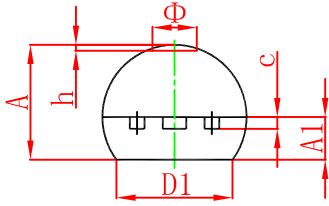
f_T — I_c



P_c — T_a

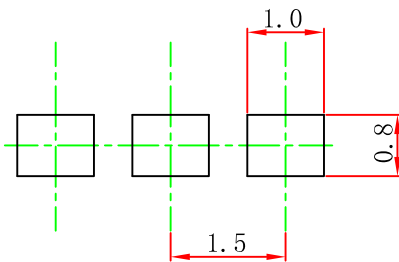


TO-92MOD Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.800	5.000	0.189	0.197
A1	1.730	2.030	0.068	0.080
b	0.440	0.600	0.017	0.024
b1	0.940	1.100	0.037	0.043
c	0.350	0.450	0.014	0.018
D	5.900	6.100	0.232	0.240
D1	4.000		0.157	
E	8.500	8.700	0.335	0.343
e	1.500 TYP.		0.059 TYP.	
e1	2.900	3.100	0.114	0.122
L	13.800	14.200	0.543	0.559
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92MOD Suggested Pad Layout



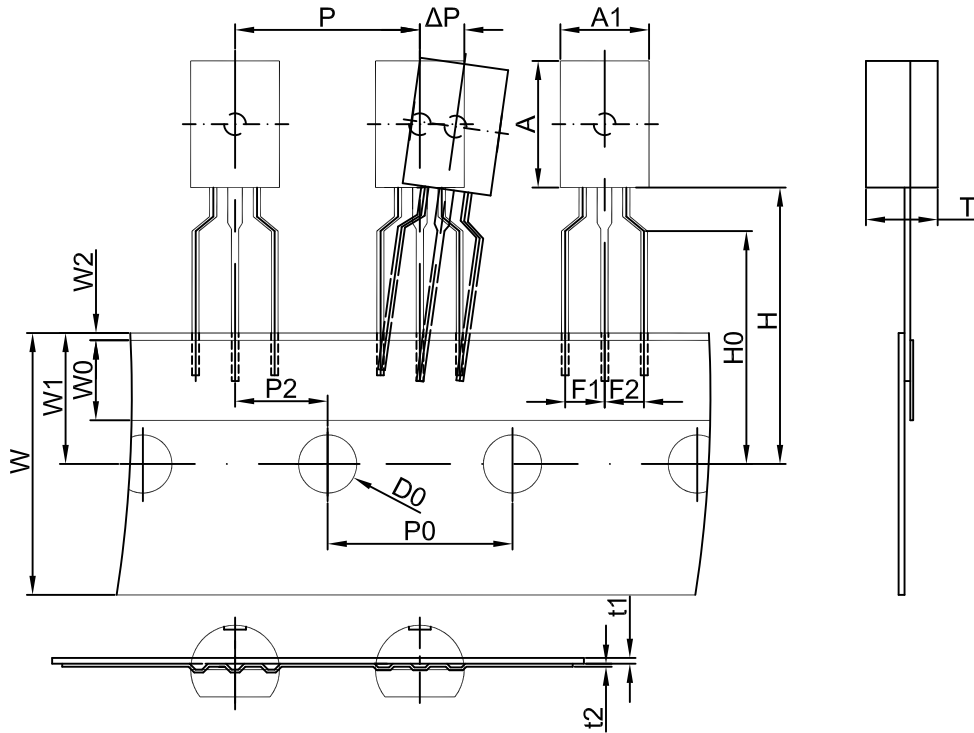
Note:

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

NOTICE

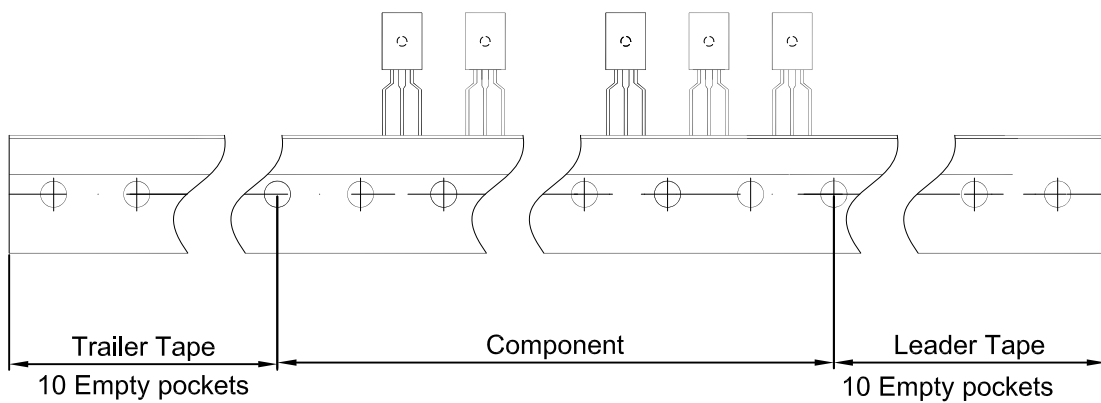
JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

TO-92MOD PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
6.0	8.6	4.9	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	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92MOD	2000 pcs	333×245×43	20,000 pcs	573×404×266