Elektronische Bauelemente

2SA684

PNP Transistor

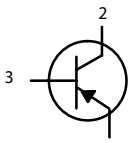
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

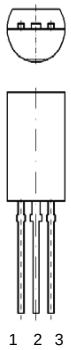
TO-92L

FEATURES

- **Automatic insertion by radial taping possible.**
- **Complementary pair with 2SC1384.**



1. EMITTER
2. COLLECTOR
3. BASE



MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
P_C	Collector Dissipation	1	W
T_J, T_{stg}	Junction and Storage Temperature	-55-150	℃

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

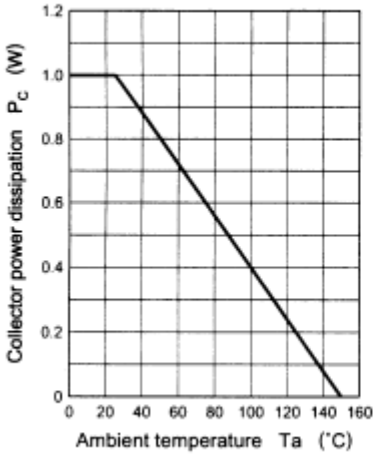
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic=-10uA, I_E=0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic=-2mA, I_B=0	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-20V, I_E=0			-0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-10V, I_C=-500mA	85		340	
	$h_{FE(2)}$	V_{CE}=-5V, I_C=-1A	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA		-0.2	-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA		-0.85	-1.2	V
Transition frequency	f_T	V_{CE}=-10V, I_E=50mA, f=200MHz		200		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz		20	30	pF

CLASSIFICATION OF $h_{FE(1)}$

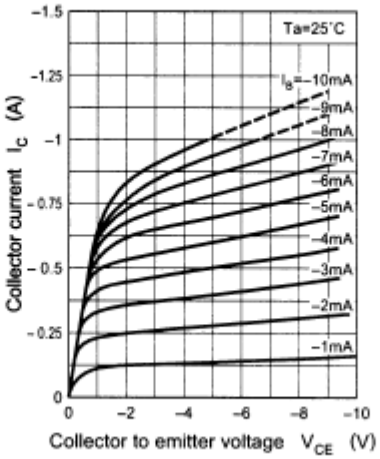
Rank	Q	R	S
Range	85-170	120-240	170-340

Typical Characteristics

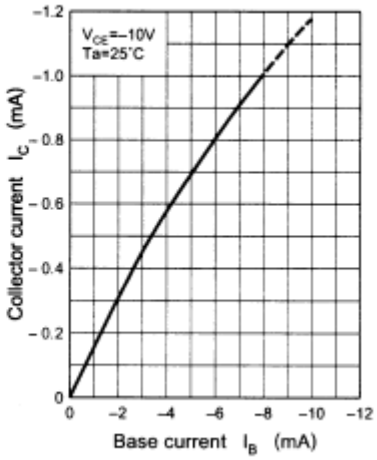
P_C — Ta



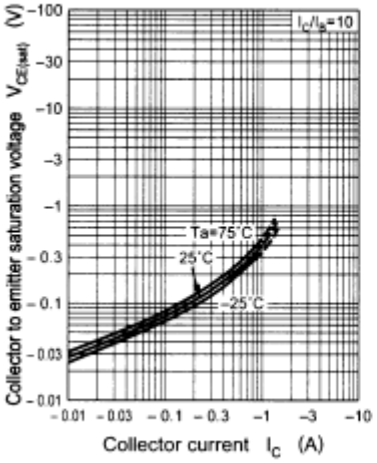
I_C — V_{CE}



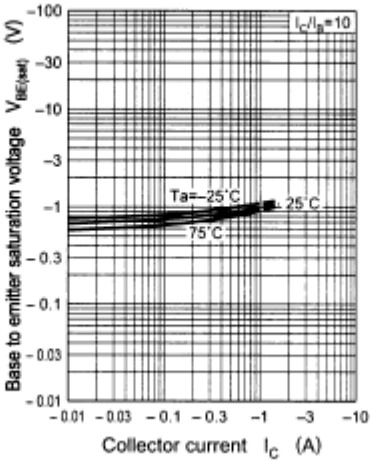
I_C — I_B



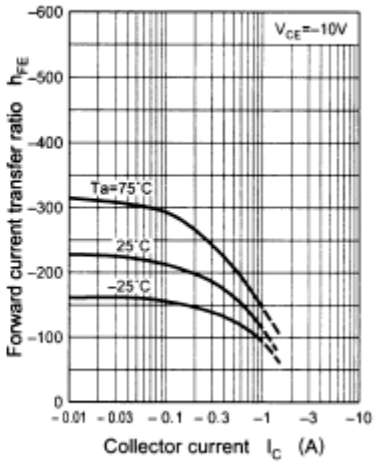
$V_{CE(sat)}$ — I_C



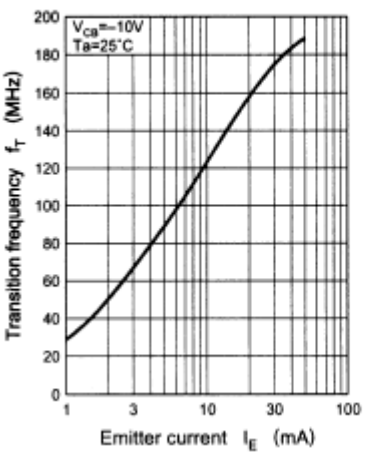
$V_{BE(sat)}$ — I_C



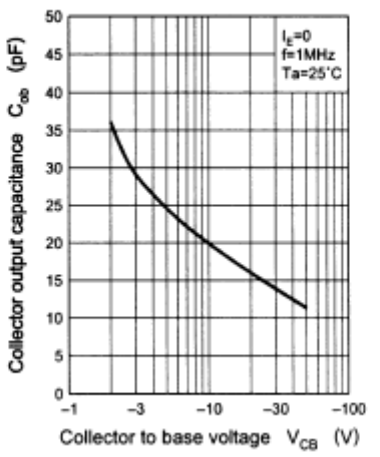
h_{FE} — I_C



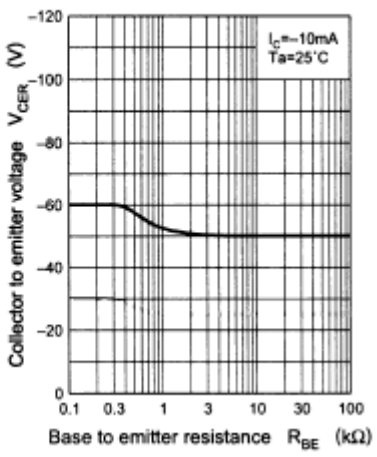
f_T — I_E



C_{ob} — V_{CB}



V_{CER} — R_{BE}



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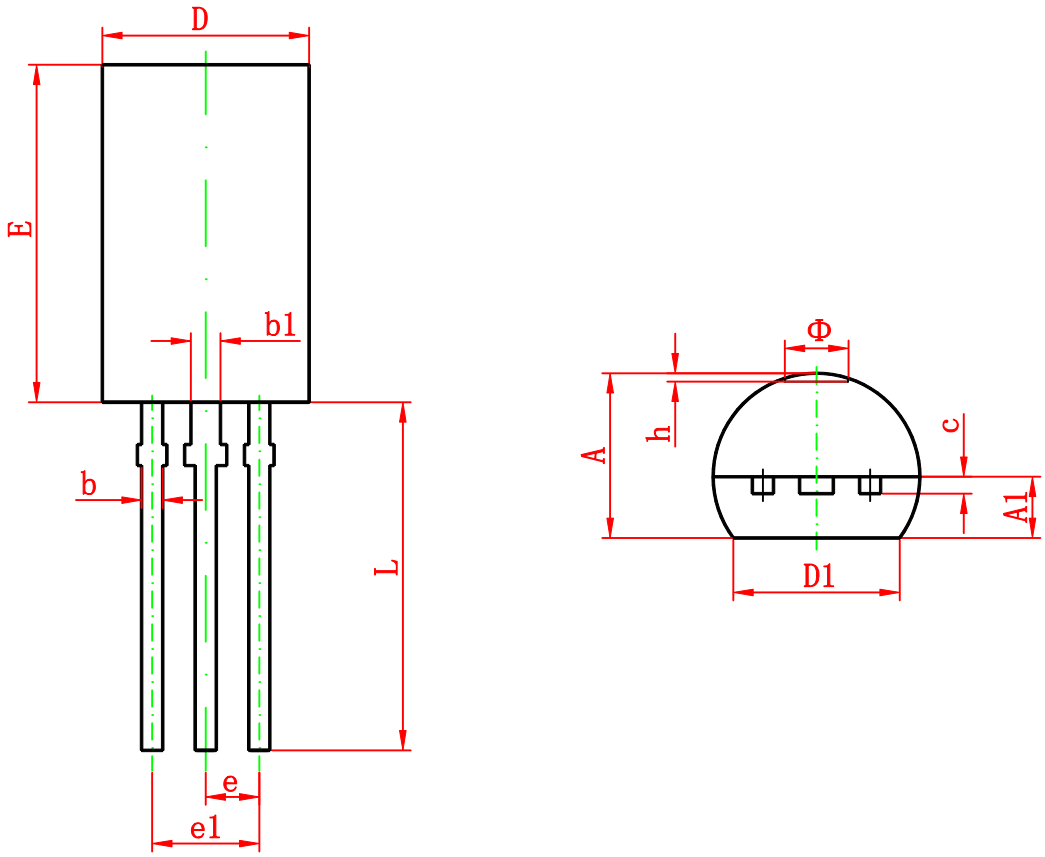
TO-92L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.700	4.100	0.146	0.161
A1	1.280	1.580	0.050	0.062
b	0.350	0.550	0.014	0.022
b1	0.600	0.800	0.024	0.031
c	0.350	0.450	0.014	0.018
D	4.700	5.100	0.185	0.201
D1	4.000		0.157	
E	7.800	8.200	0.307	0.323
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	13.800	14.200	0.543	0.559
Φ		1.600		0.063
h	0.000	0.300	0.000	0.012