

TO-251-3L Plastic-Encapsulate Transistors

2SA1700 TRANSISTOR (PNP)

FEATURES

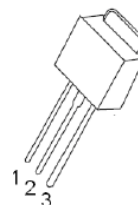
- High Breakdown Voltage
- Adoption of MBIT Process
- Excellent h_{FE} Linearity

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-400	V
V_{CEO}	Collector-Emitter Voltage	-400	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current –Continuous	-0.2	A
P_C	Collector Power Dissipation	1	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-251-3L

- 1.BASE
2.COLLECTOR
3.EMITTER



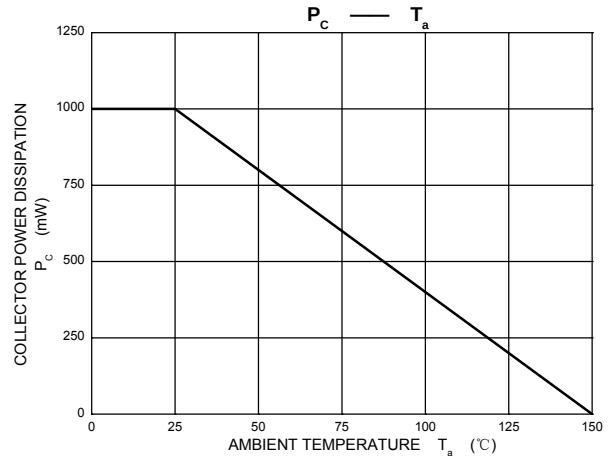
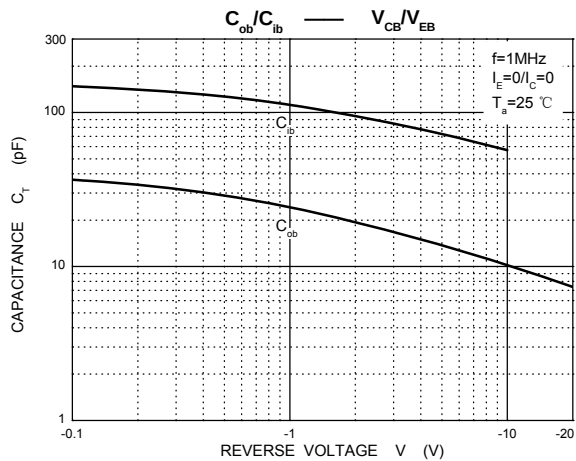
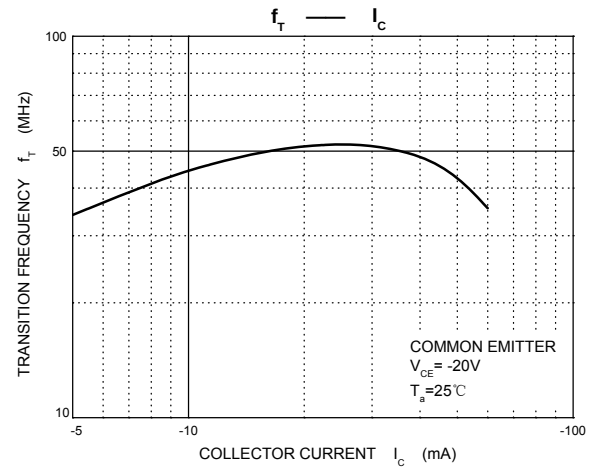
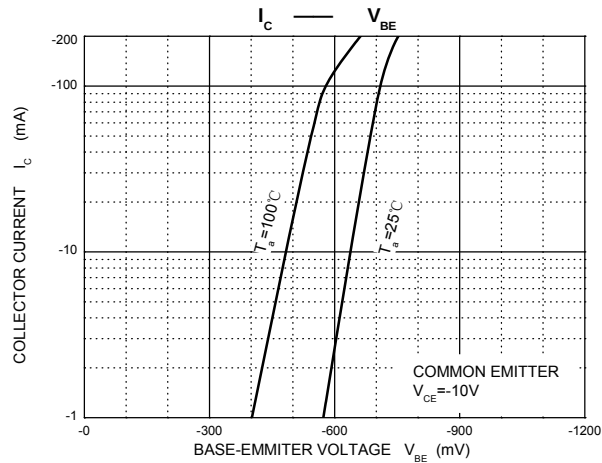
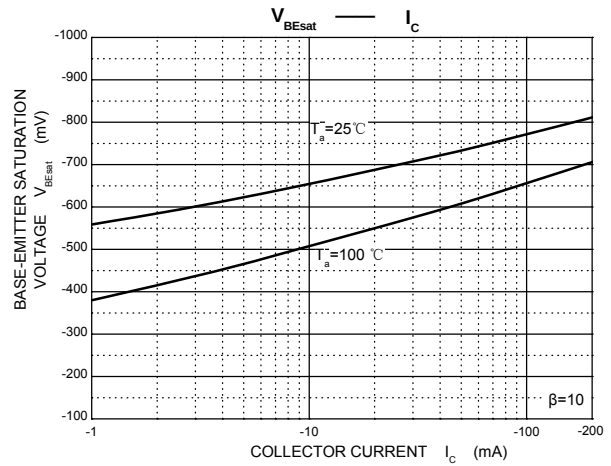
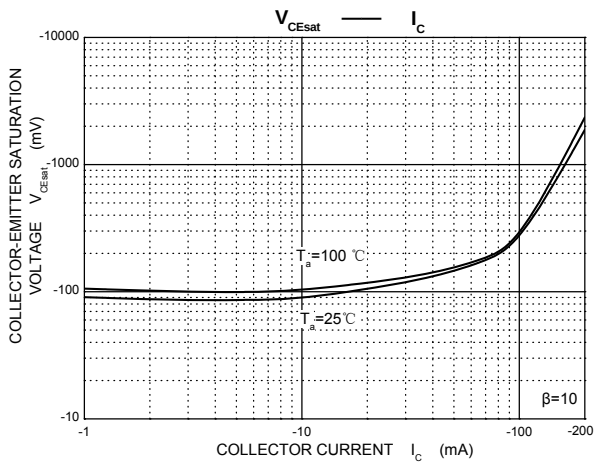
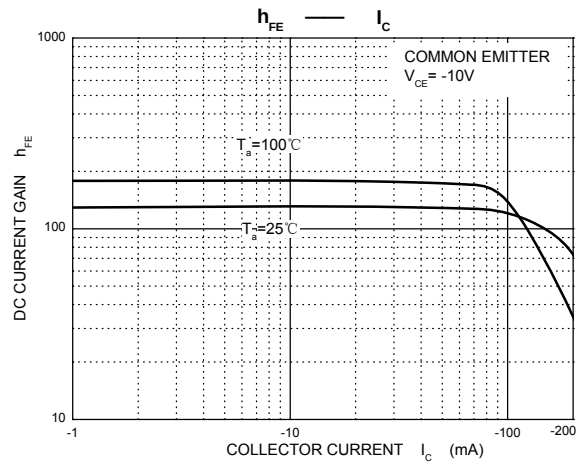
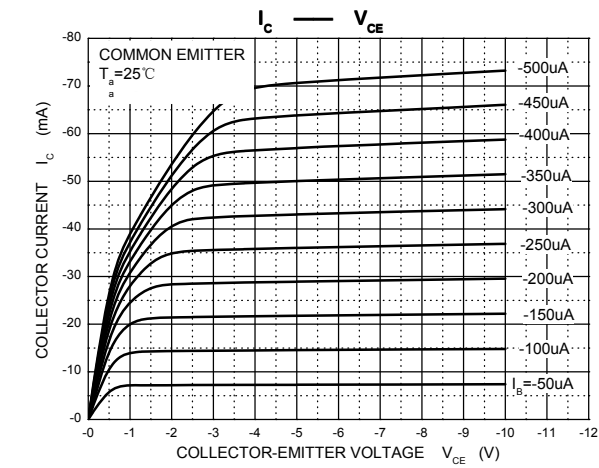
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -300\text{V}, I_E = 0$			-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}	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	60		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.8	V
Base- emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE} = -30\text{V}, I_C = -10\text{mA}$		70		MHz
Output Capacitance	C_{ob}	$V_{CB} = -30\text{V}, f = 1\text{MHz}$		5		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB} = -30\text{V}, f = 1\text{MHz}$		4		pF
Turn-on Time	t_{on}	$V_{CC} = -150\text{V}, I_{B1} = I_{B2} = -5\text{mA}, R_L = 3\text{k}\Omega$		0.25		μs
Turn-off Time	t_{off}			5		μs

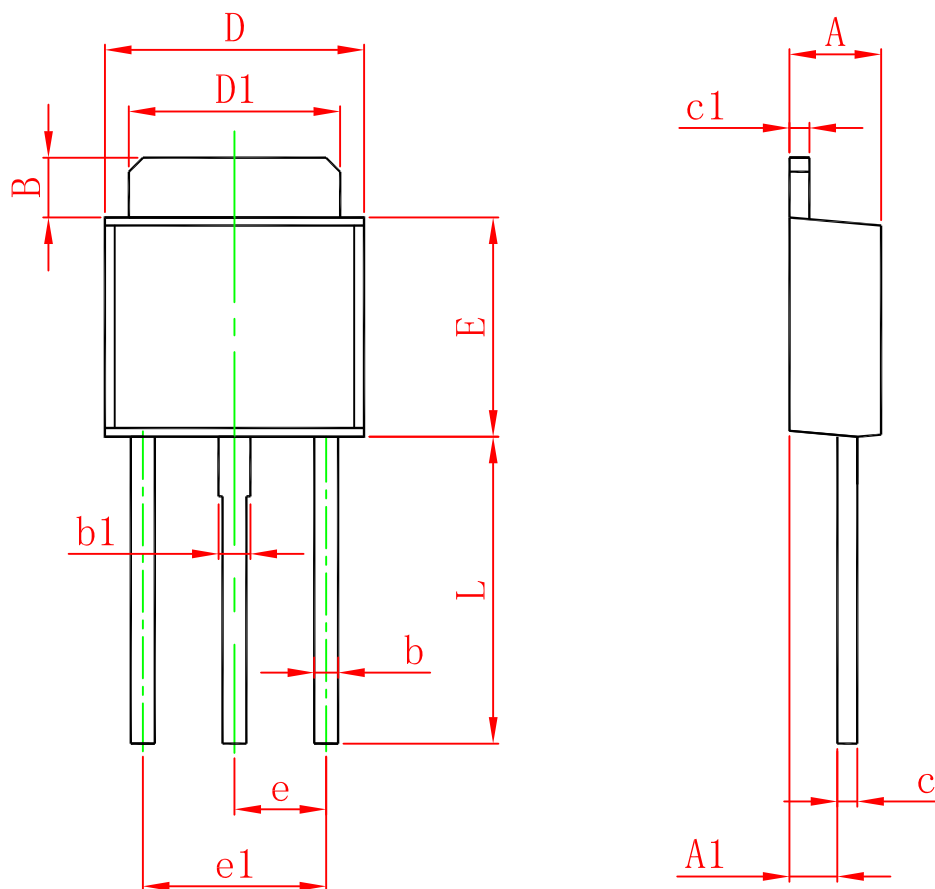
CLASSIFICATION OF h_{FE}

Rank	D	E
Range	60-120	100-200

Typical Characteristics



TO-251-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311