

TO-251-3L Plastic-Encapsulate Transistors

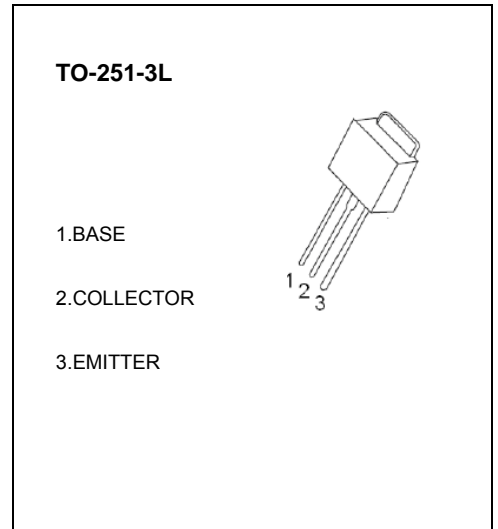
2SD1802 TRANSISTOR (NPN)

FEATURES

- Adoption of FBET,MBIT Processes
- Large Current Capacity and Wide ASO
- Low Collector-to-Emitter Saturation Voltage
- Fast Switching Speed

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	50	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current –Continuous	3	A
P _C	Collector Power Dissipation	1	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



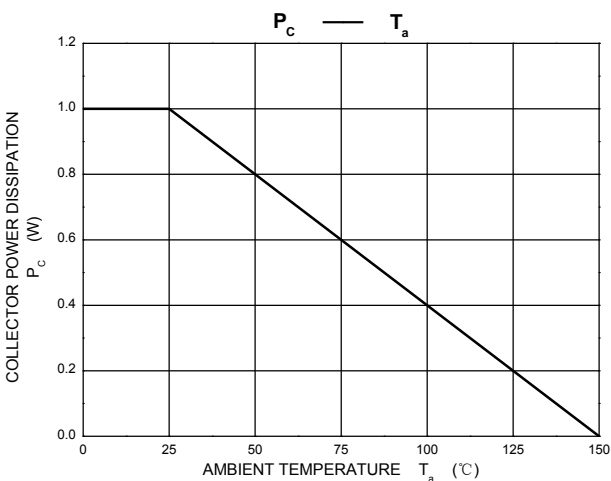
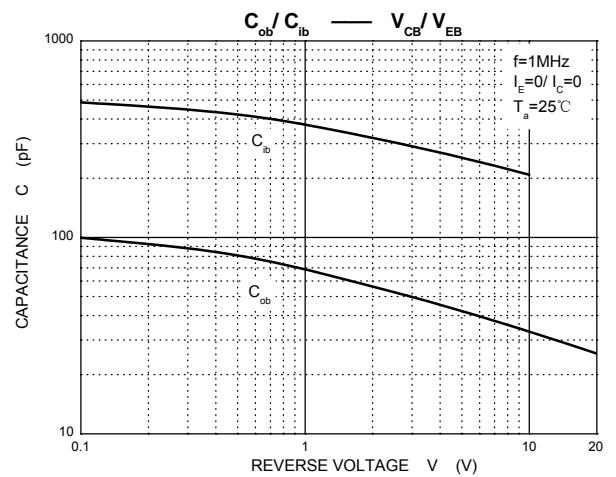
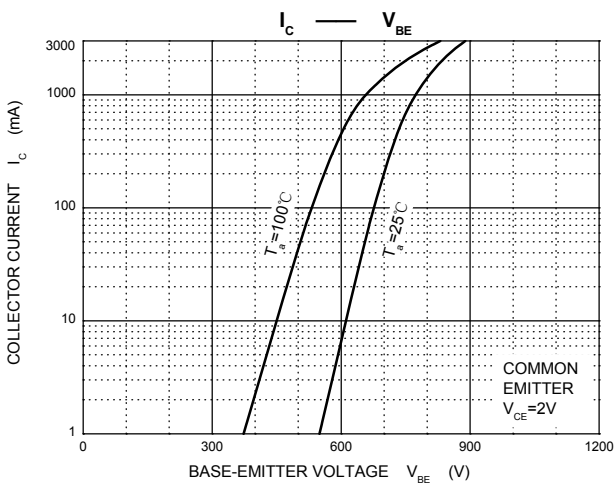
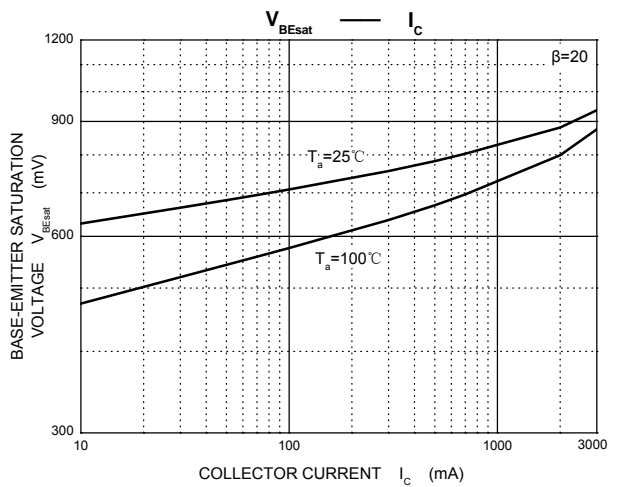
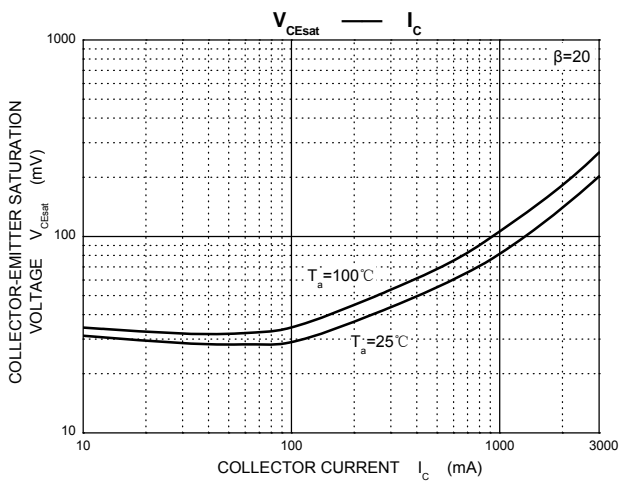
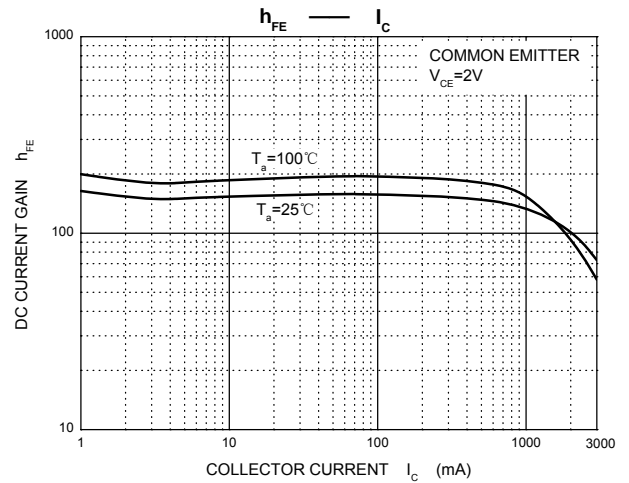
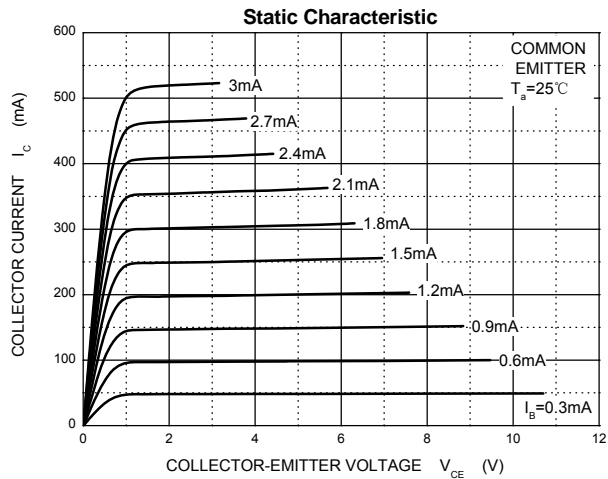
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, I _B = 0	50			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 40V, I _E = 0			1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 4V, I _C = 0			1	μA
DC current gain	h _{FE(1)}	V _{CE} = 2V, I _C = 100mA	100		560	
	h _{FE(2)}	V _{CE} = 2V, I _C = 3A	35			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 2A, I _B = 100mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 2A, I _B = 100mA			1.2	V
Transition frequency	f _T	V _{CE} = 10V, I _C = 50mA		150		MHz
Collector output capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz		25		pF

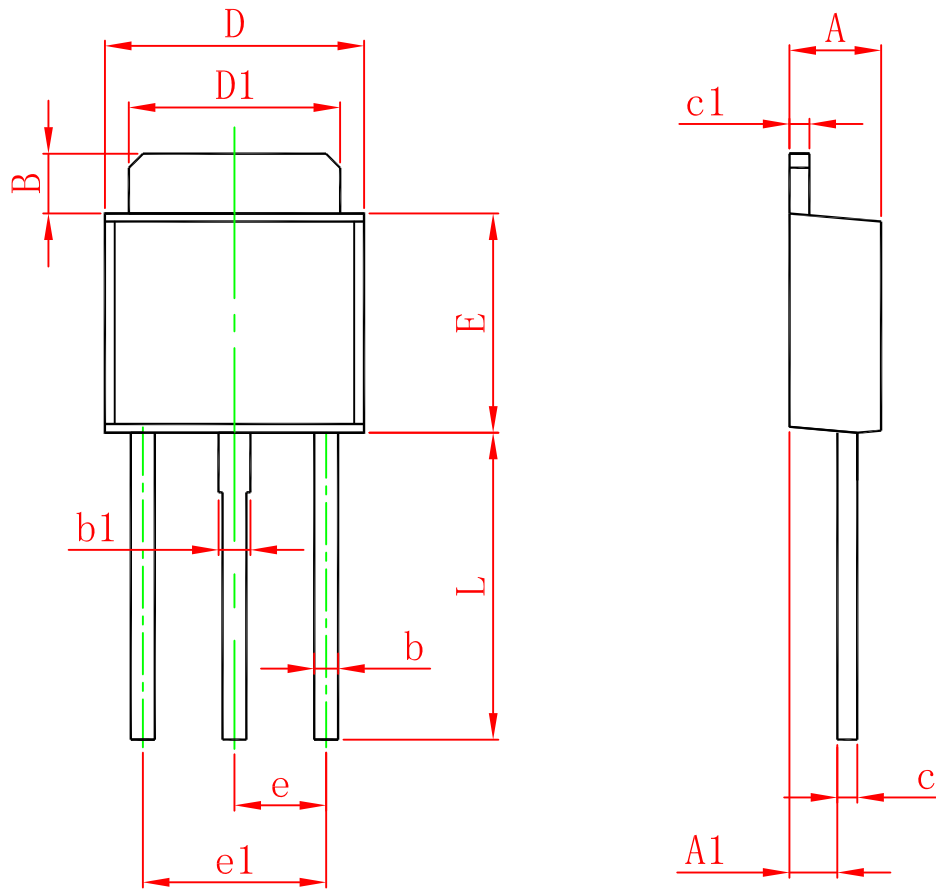
CLASSIFICATION OF h_{FE(1)}

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

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