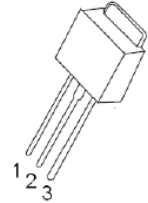


**TO-251-3L Plastic-Encapsulate Transistors****MJD31C** TRANSISTOR (NPN)**FEATURES**

- Designed for General Purpose Amplifier and Low Speed Switching Applications
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("–1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular TIP31 and TIP32 Series

TO-251-3L

- 1.BASE
2.COLLECTOR
3.EMITTER

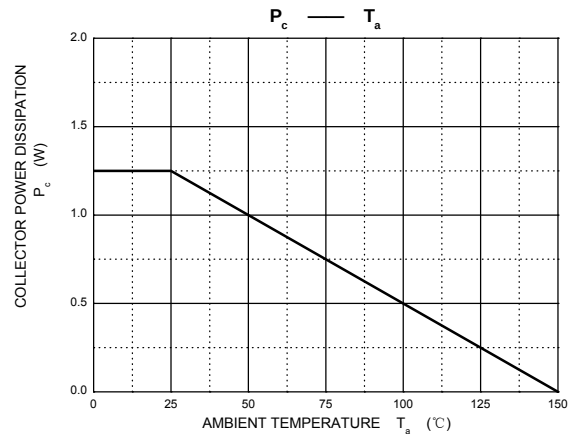
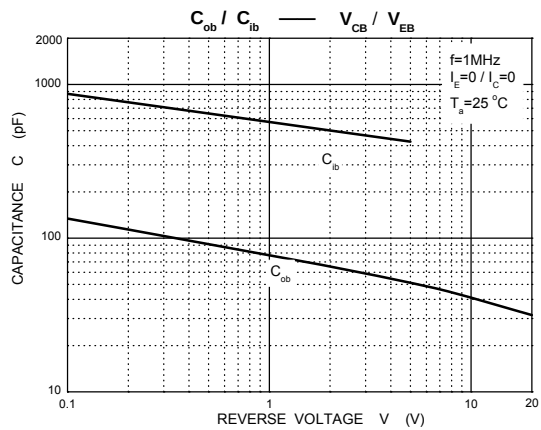
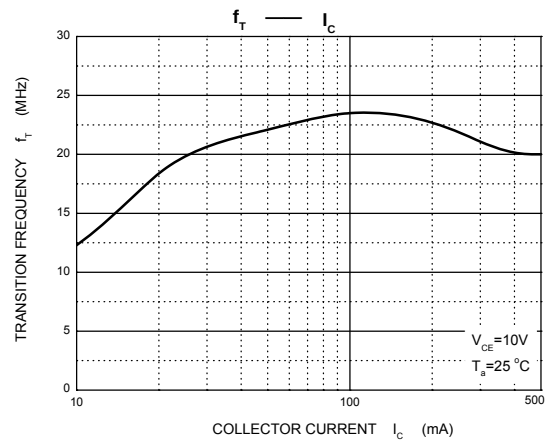
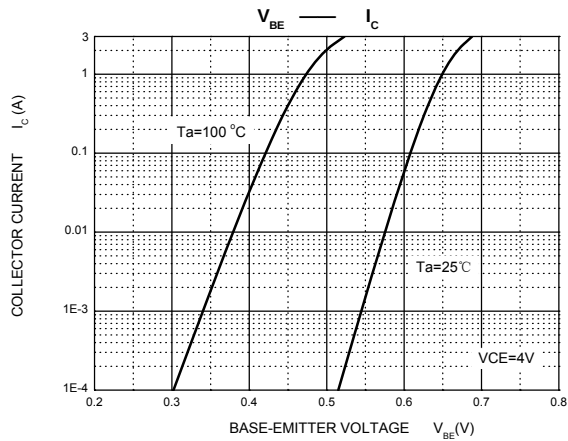
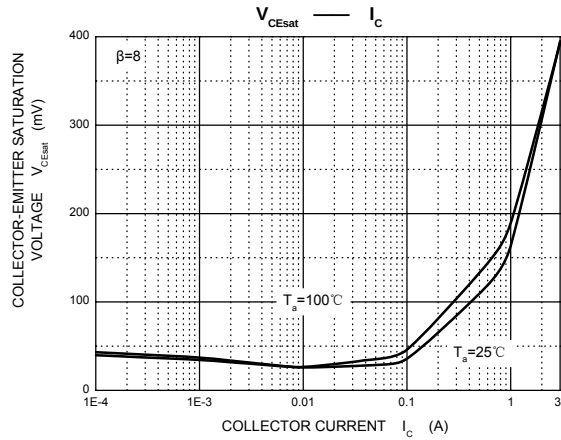
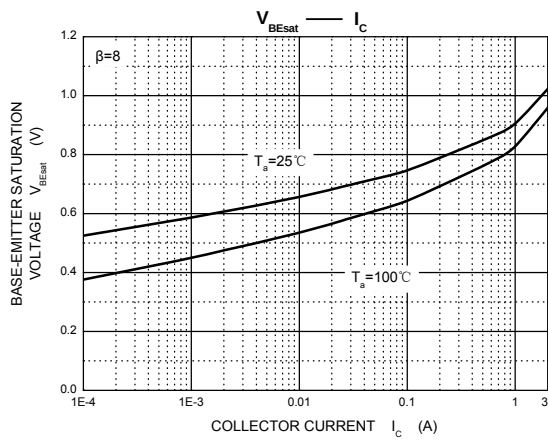
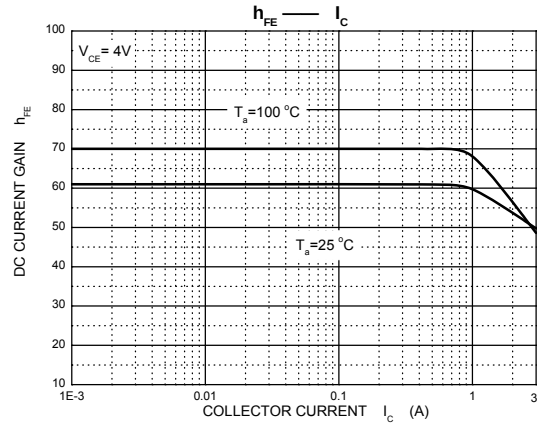
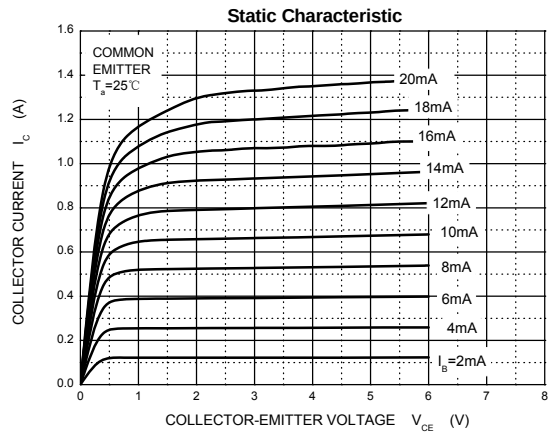
**MAXIMUM RATINGS (T_a=25°C unless otherwise noted)**

Symbol	Parameter	Max	Unit
V _{CBO}	Collector-Base Voltage	100	V
V _{CEO}	Collector-Emitter Voltage	100	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current -Continuous	3	A
P _C	Collector Power Dissipation	1.25	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-65-150	°C

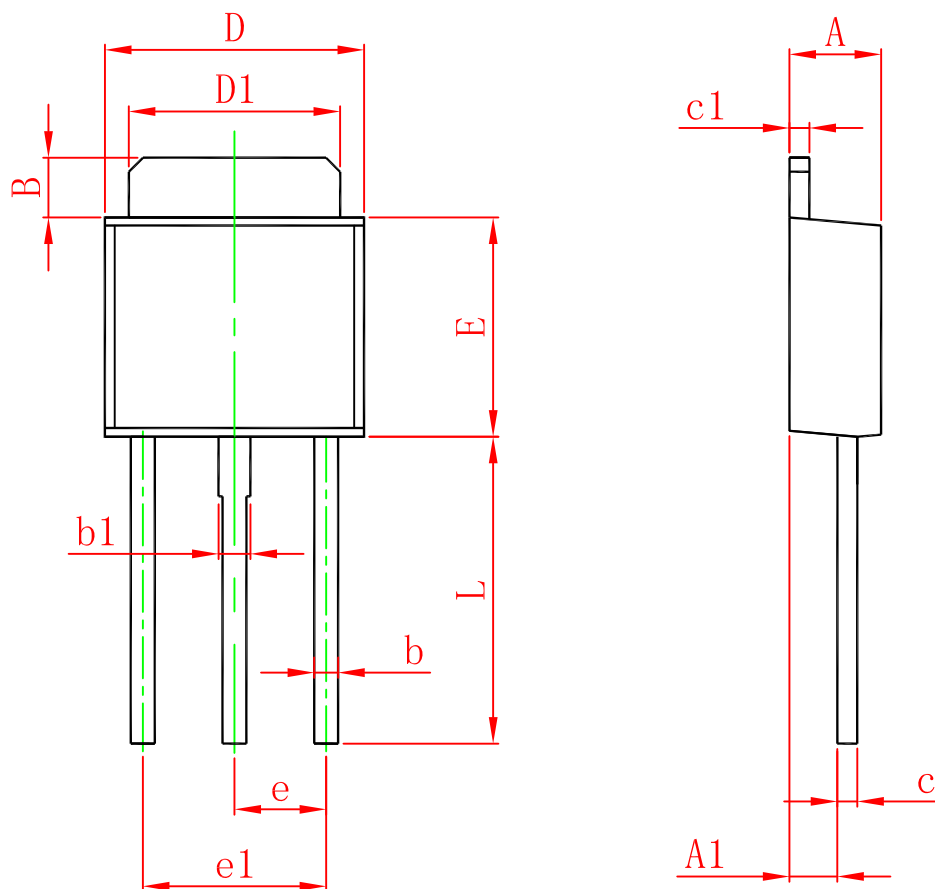
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 1mA, I _E =0	100		V
Collector-emitter breakdown voltage *	V _{CEO(sus)}	I _C = 30mA, I _B =0	100		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 1mA, I _C =0	5		V
Collector cut-off current	I _{CES}	V _{CE} =100V, V _{EB} =0		20	μA
Collector cut-off current	I _{CEO}	V _{CE} = 60V, I _B = 0		50	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0		1	mA
DC current gain	h _{FE(1)}	V _{CE} = 4V, I _C = 1A	25		
	h _{FE(2)}	V _{CE} =4 V, I _C = 3A	15	75	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =3A, I _B =0.375A		1.2	V
Base-emitter voltage	V _{BE(on)}	V _{CE} = 4V, I _C =3A		1.8	V
Transition frequency	f _T	V _{CE} =10V , I _C =0.5A, f _T =1KHz	3		MHz

* Pulse Test: PW≤300μs, Duty Cycle≤2%.



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