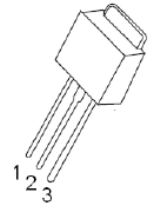
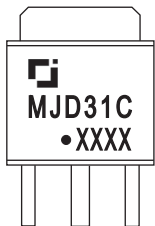


**TO-251-3L Plastic-Encapsulate Transistors****MJD31C** TRANSISTOR (NPN)**FEATURES**

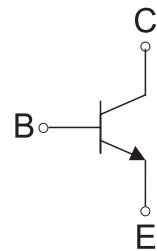
- Designed for General Purpose Amplifier and Low Speed Switching Applications
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("–1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular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

TO-251-3L

- 1.BASE
2.COLLECTOR
3.EMITTER

**MARKING**

MJD31C=Device code
Solid dot=Green mold compound device,
if none, the normal device
XXXX=Code

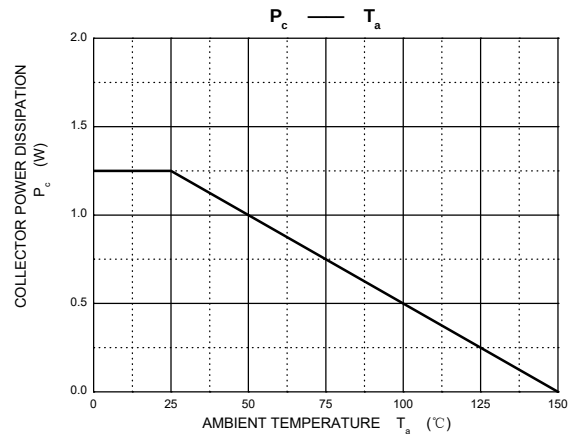
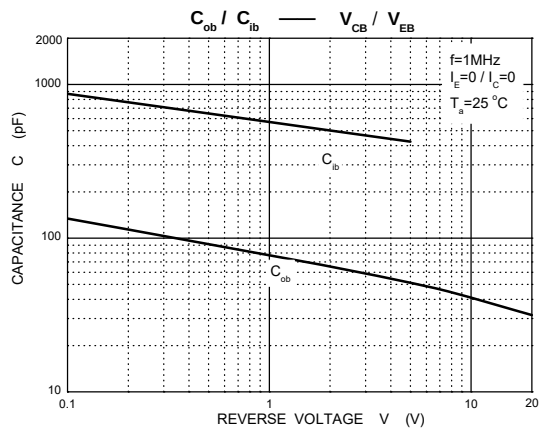
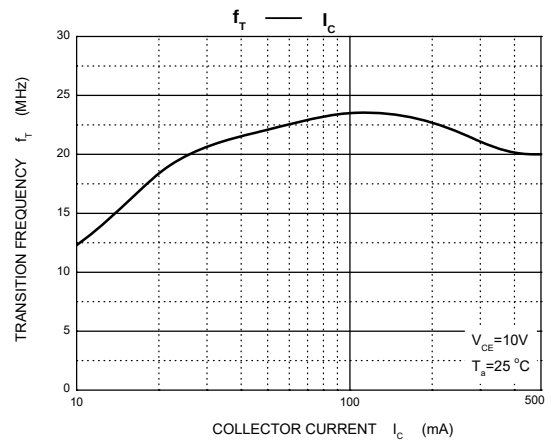
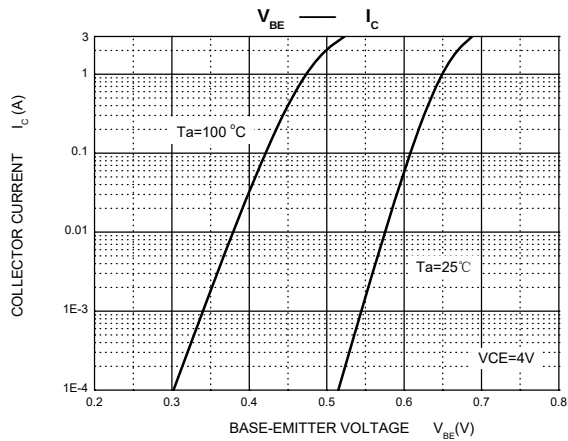
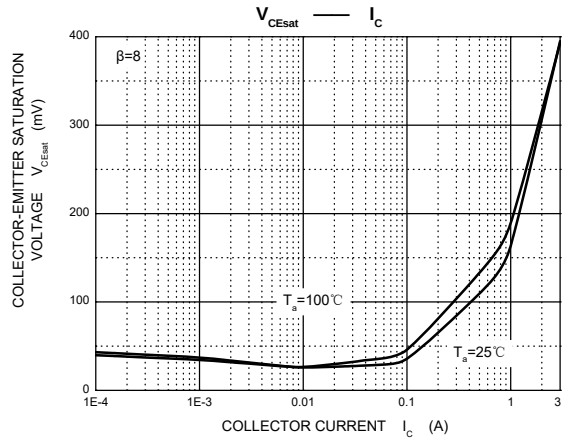
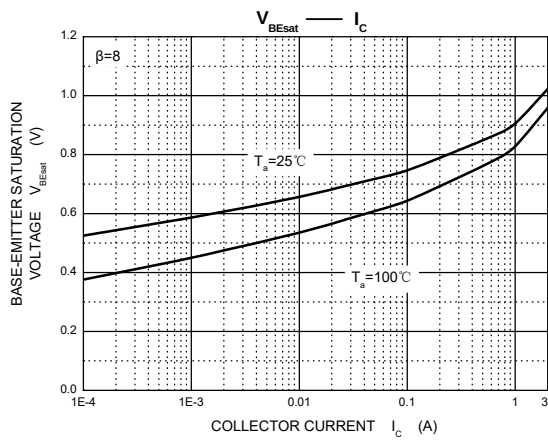
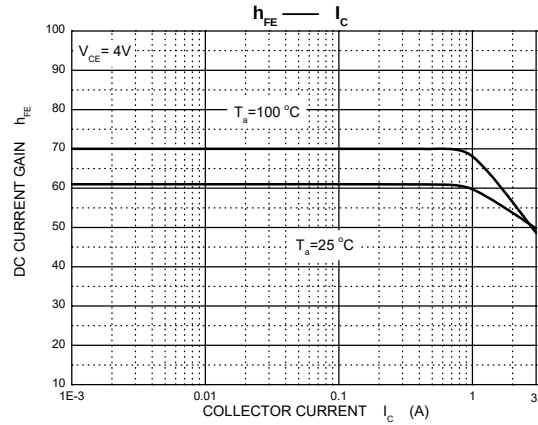
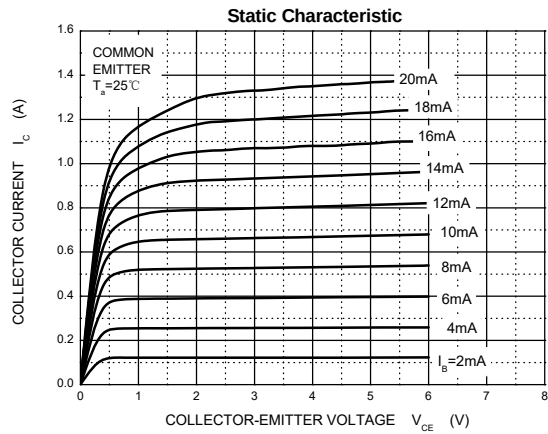
Equivalent Circuit**MAXIMUM RATINGS (T_a=25°C unless otherwise noted)**

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 , T _{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

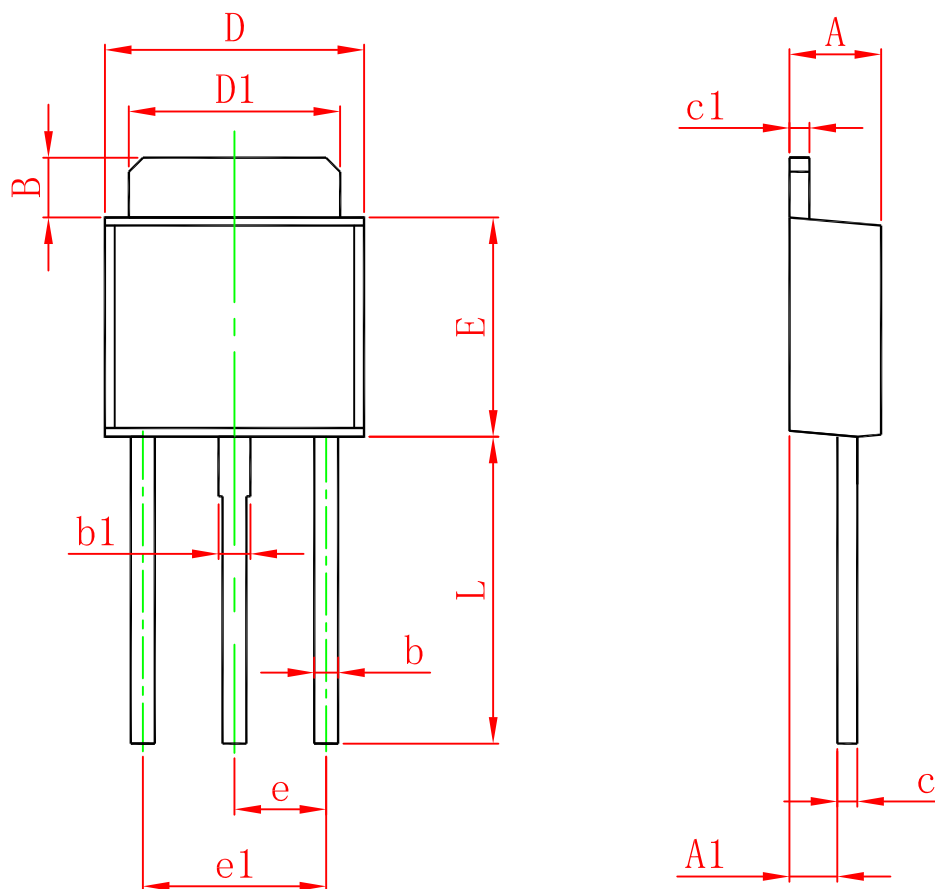
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	100		V
Collector-emitter breakdown voltage *	$V_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	100		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	5		V
Collector cut-off current	I_{CES}	$V_{CE} = 100\text{V}, V_{EB} = 0$		20	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 60\text{V}, I_B = 0$		50	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		1	mA
DC current gain	$h_{FE(1)}$	$V_{CE} = 4\text{V}, I_C = 1\text{A}$	25		
	$h_{FE(2)}$	$V_{CE} = 4\text{V}, I_C = 3\text{A}$	15	75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.375\text{A}$		1.2	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE} = 4\text{V}, I_C = 3\text{A}$		1.8	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}, f_T = 1\text{KHz}$			MHz

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.



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