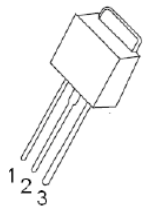
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-251-3L Plastic-Encapsulate Transistors

MJD112 TRANSISTOR (NPN)

TO-251-3L



1. BASE
2. COLLECTOR
3. EMITTER

FEATURES

- Complementary Darlington Power Transistors
- Dpak for Surface Mount Applications

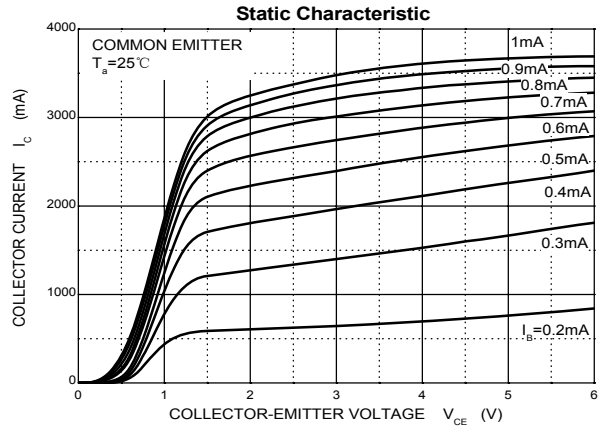
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

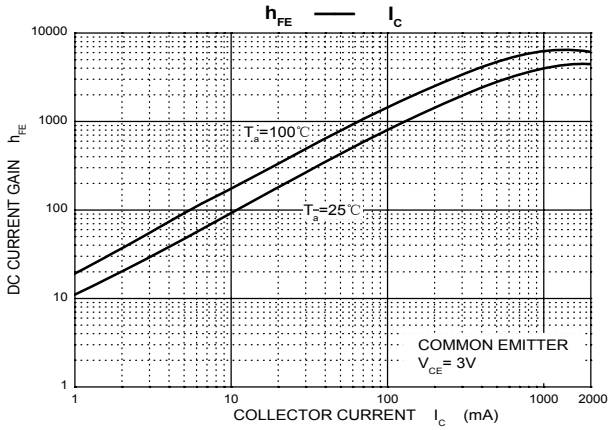
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JC}$	Thermal resistance, junction to case	6.25	℃/W
$R_{\theta JA}$	Thermal resistance, junction to Ambient	71.4	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

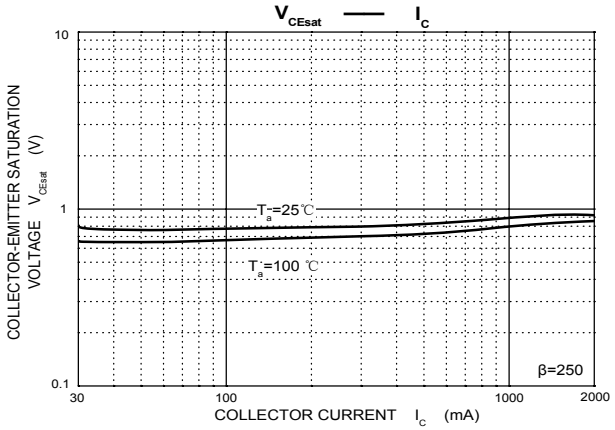
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

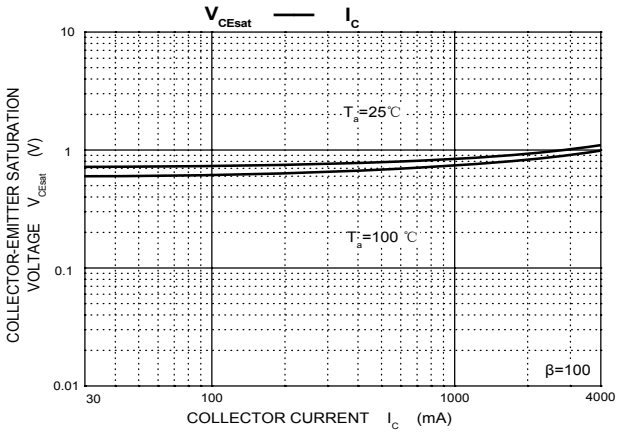
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=1mA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C =30mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=5mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			20	μA
Collector-emitter cut-off current	I_{CEO}	V_{CE}=50V,I_E=0			20	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			2	mA
DC current gain	$h_{FE(1)}$	V_{CE}=3V,I_C=500mA	500			
	$h_{FE(2)}$	V_{CE}=3V,I_C=2A	1000		12000	
	$h_{FE(3)}$	V_{CE}=3V,I_C=4A	200			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=2A,I_B=8mA			2	V
	$V_{CE(sat)2}$	I_C=4A,I_B=40mA			3	V
Base-emitter voltage	V_{BE}	V_{CE}=3V,I_C=2A			2.8	V
Transition frequency	f_T	V_{CE}=10V,I_C=0.75A,f=1MHz	25			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=0.1MHz			100	pF

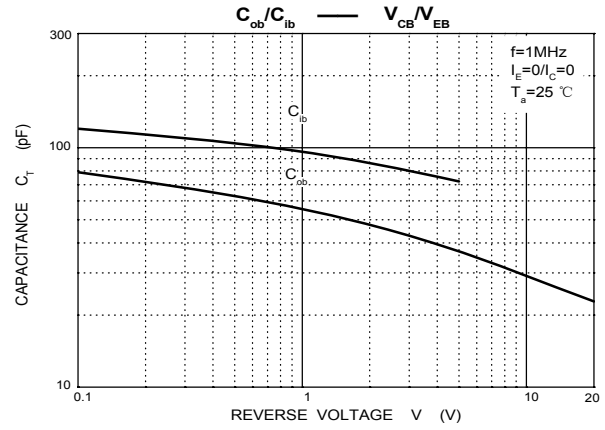
Typical Characteristics MJD112

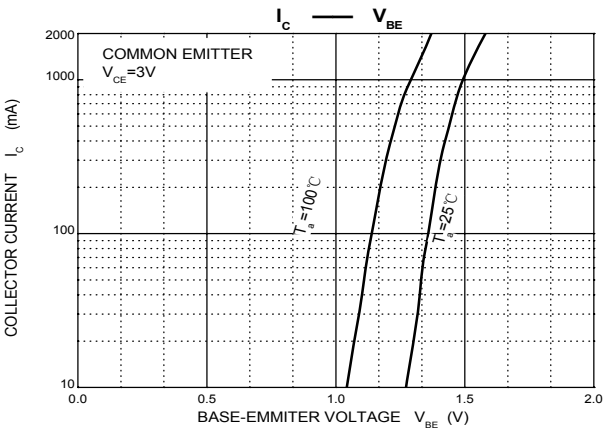


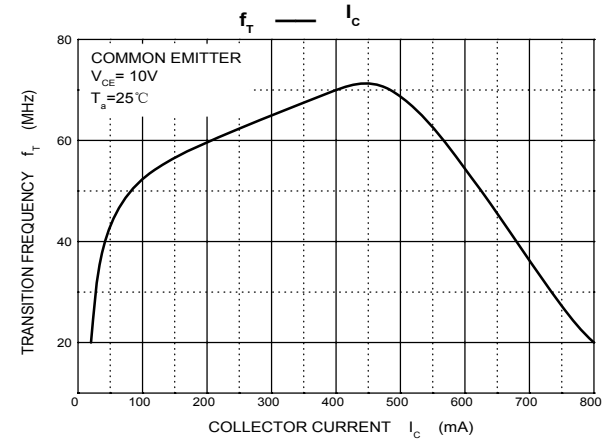


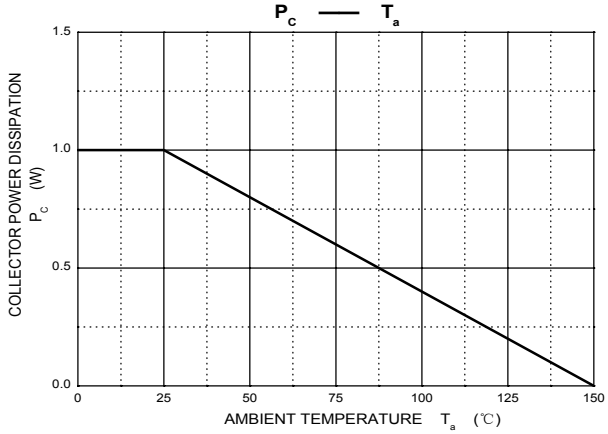




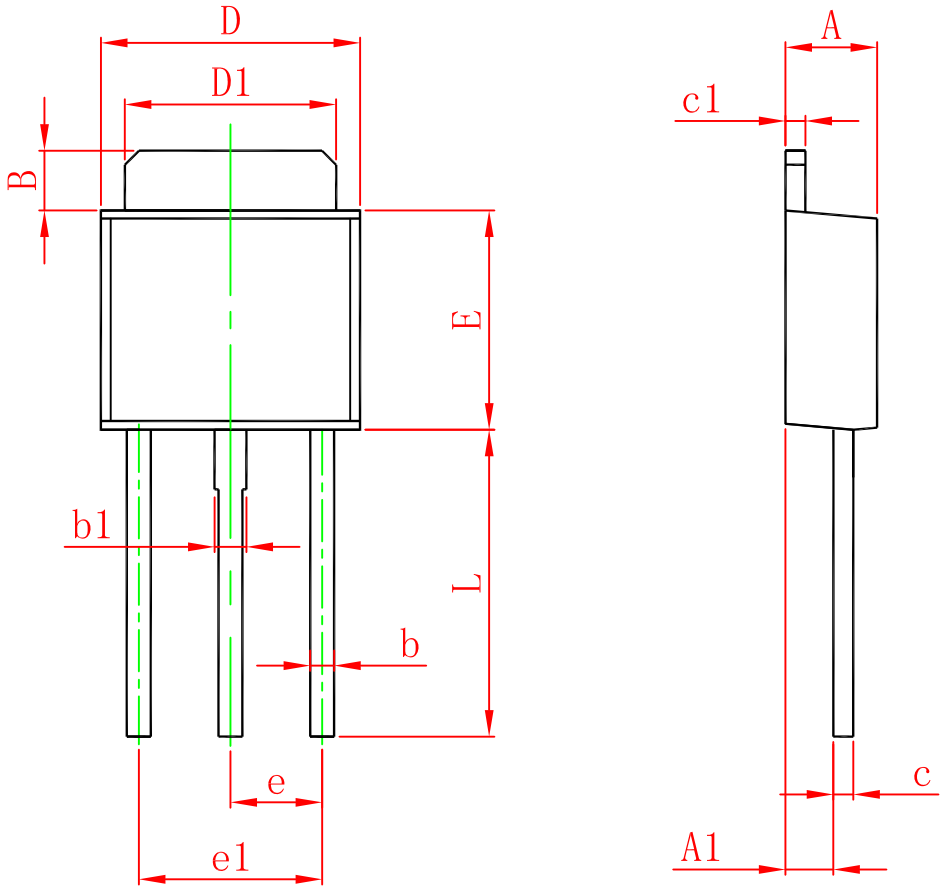








TO-251-3L Package Outline Dimensions



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