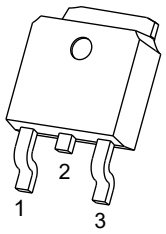
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

TO-252-2L Plastic-Encapsulate Transistors

MJD31C TRANSISTOR (NPN)

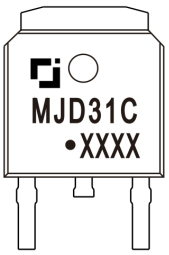
TO-252-2L



FEATURES

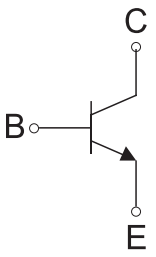
- Designed for General Purpose Amplifier and Low Speed Switching Applications.
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("–1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular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

MARKING



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

Equivalent Circuit



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

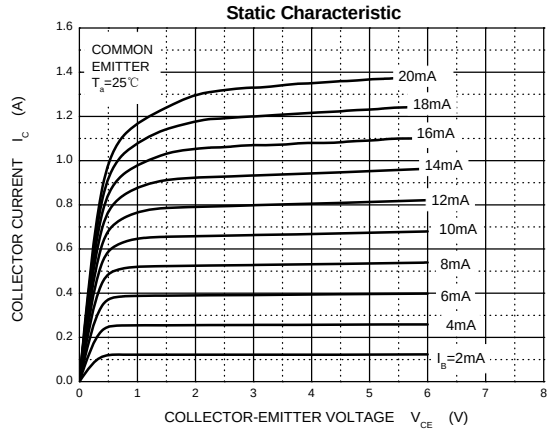
Symbol	Parameter	Max	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	3	A
I_{CM}	Collector Current -Pulsed	5	A
P_C	Collector Power Dissipation	1.25	W
P_{tot}	Total Power Dissipation (T_C=25℃)	15	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

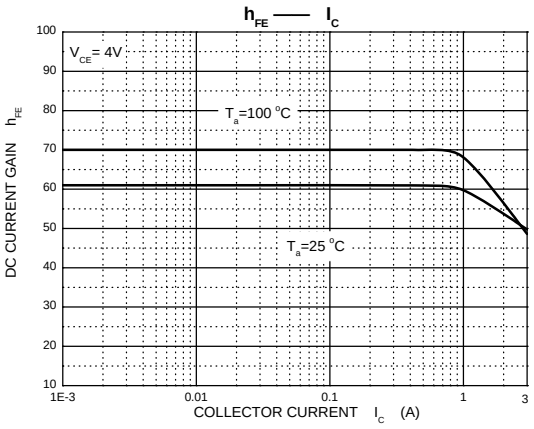
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

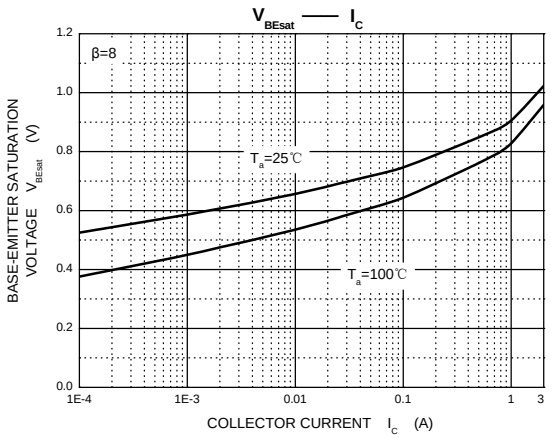
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 1mA, I_E=0	100		V
Collector-emitter breakdown voltage *	$V_{CEO(sus)}$	I_C= 30mA, I_B=0	100		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 1mA, I_C=0	5		V
Collector cut-off current	I_{CES}	V_{CE}=100V, 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

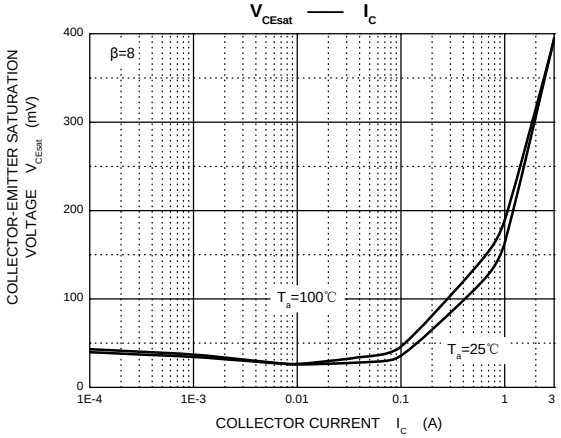
* Pulse Test: PW≤300μs, Duty Cycle≤2%.

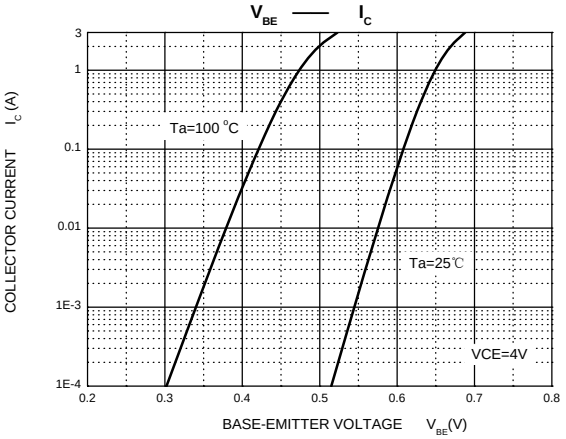
Typical Characteristics

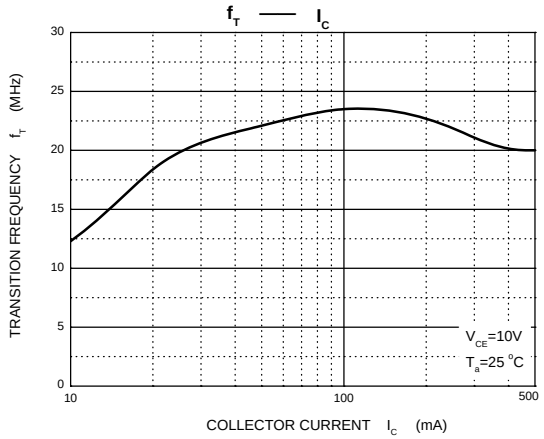


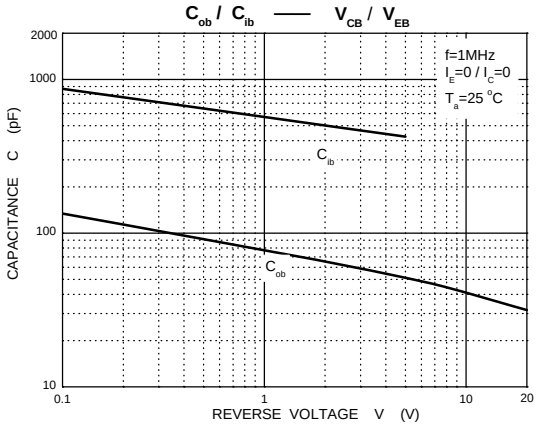


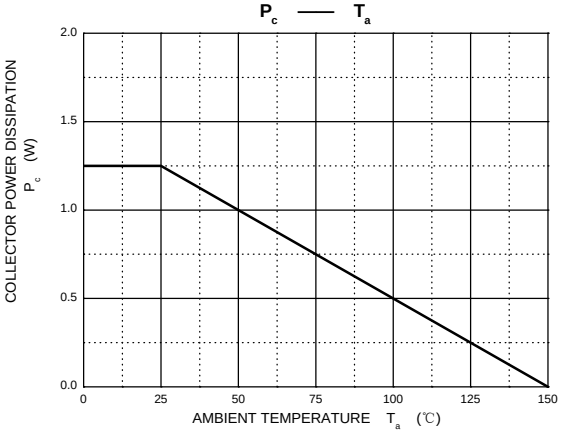




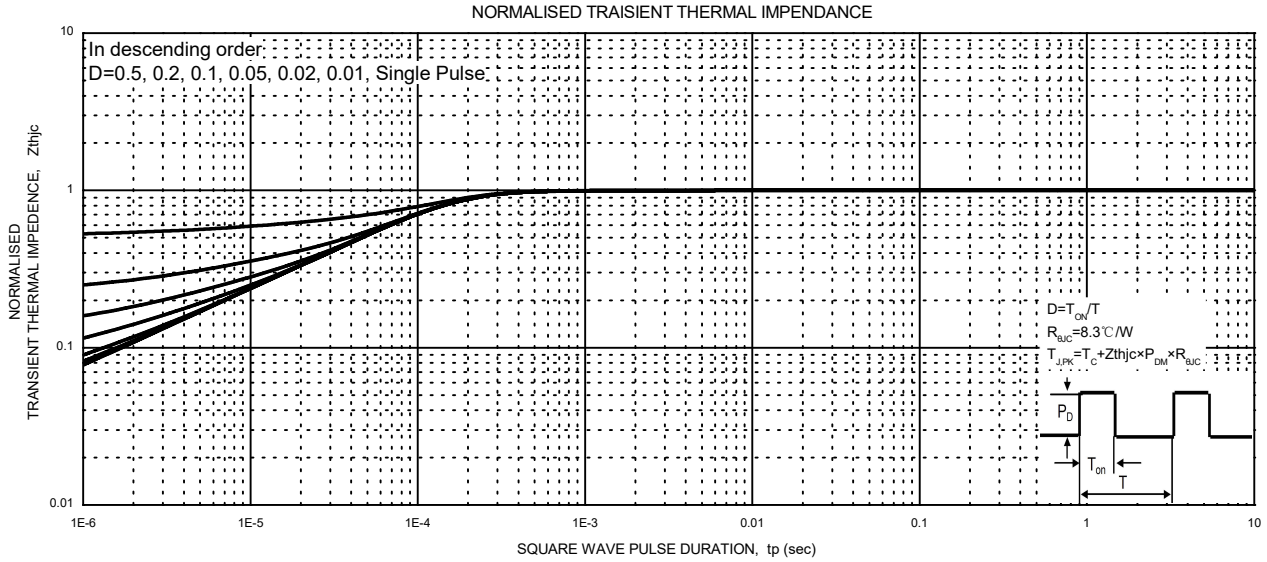


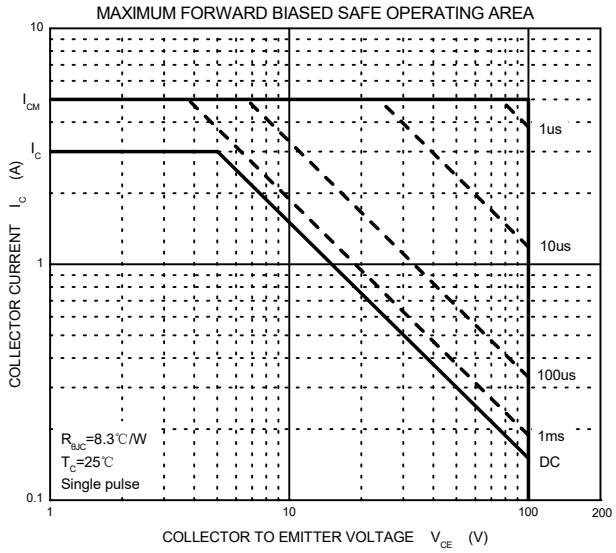




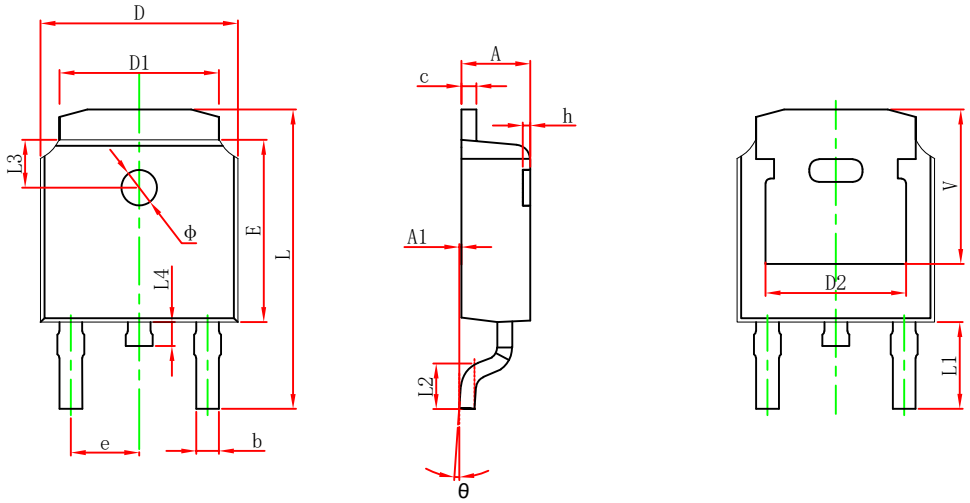


Typical Characteristics



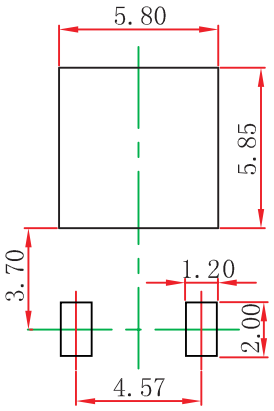


TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout



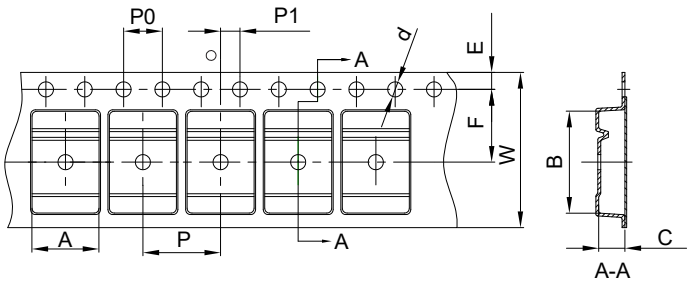
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications,enhancements,improvements,corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-252-2L Tape and Reel

TO-252-2L Embossed Carrier Tabe

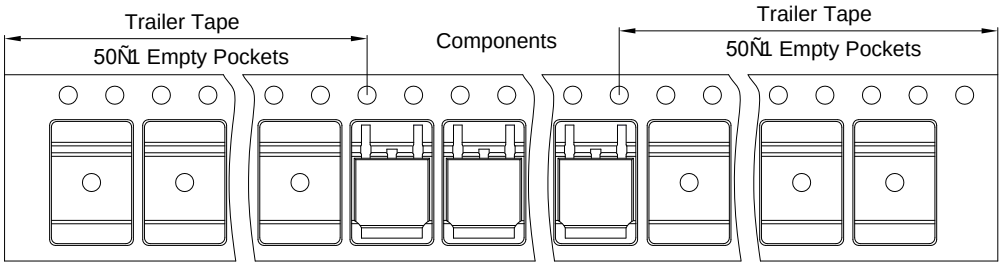


Packaging Description:

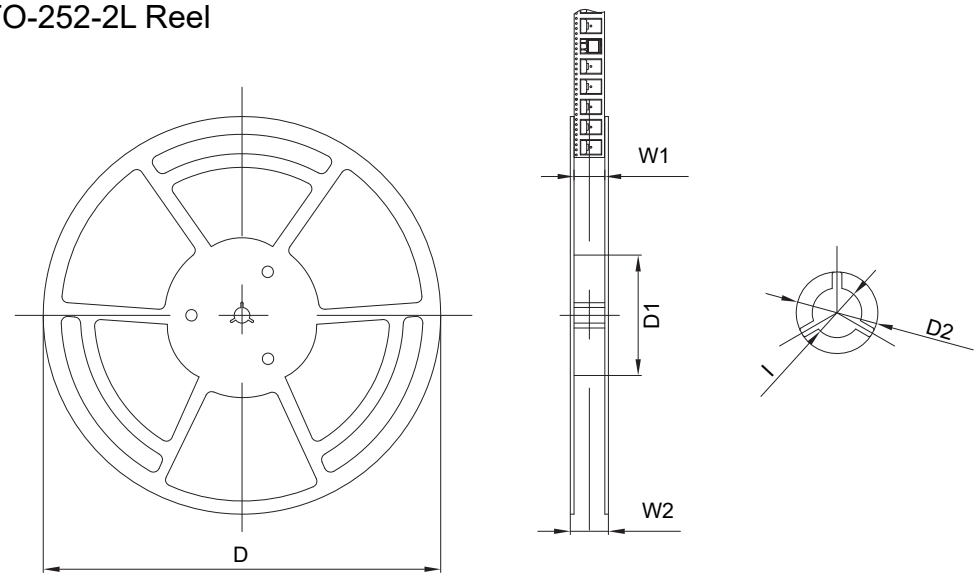
TO-252-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2500 units per 13″ or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Φ1.55	1.75	7.50	4.00	8.00	2.00	16.00

TO-252-2L Tape Leader and Trailer



TO-252-2L Reel



Dimensions are in millimeter						
Reel	D	D1	D2	W1	W2	I
13" Dia	330.00	100.00	Φ21.00	16.40	21.40	Φ13.00

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
2500 pcs	13 inch	5000 pcs	360×360×65	25000 pcs	378×358×382