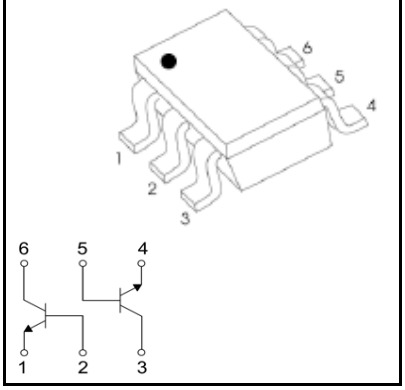
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

SOT-363 Plastic-Encapsulate Transistors

MMDT2222A DUAL TRANSISTOR (NPN+NPN)

SOT-363



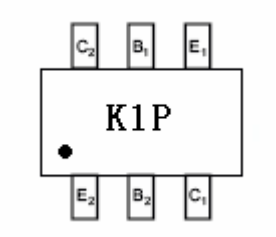
FEATURE

Complementary PNP Type available MMDT2907A

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power Dissipation	200	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

MARKING: K1P



ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

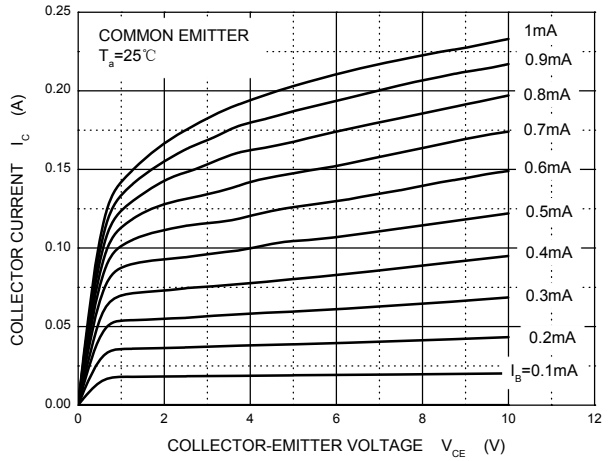
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10μA, I_E=0	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA, I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA.I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}= 60V, I_E=0		10	nA
Collector cut-off current	I_{CEX}	V_{CE}=60V,$V_{EB(off)}$=3V		10	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 3 V, I_C=0		10	nA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C= 0.1mA	35		
	$h_{FE(2)}$	V_{CE}=10V, I_C= 1mA	50		
	$h_{FE(3)}$	V_{CE}=10V, I_C= 10mA	75		
	$h_{FE(4)}$	V_{CE}=10V, I_C= 150mA	100	300	
	$h_{FE(5)}$	V_{CE}=10V, I_C= 500mA	40		
	$h_{FE(6)}$	V_{CE}=1V, I_C= 150mA	35		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=150mA, I_B= 15mA		0.3	V
	$V_{CE(sat)2}$	I_C=500mA, I_B= 50mA		1	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=150mA, I_B=15mA	0.6	1.2	V
	$V_{BE(sat)2}$	I_C=500mA, I_B= 50mA		2	V
Transition frequency	f_T	V_{CE}=20V, I_C= 20mA, f=100MHz	300		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0,f=1MHz		8	pF
Input Capacitance	C_{ib}	V_{EB}=0.5V,I_C= 0,f=1MHz		25	pF
Noise Figure	NF	V_{CE}=10V, I_C=100μA, f=1KHz,Rs=1KΩ		4	dB

Switching characteristics

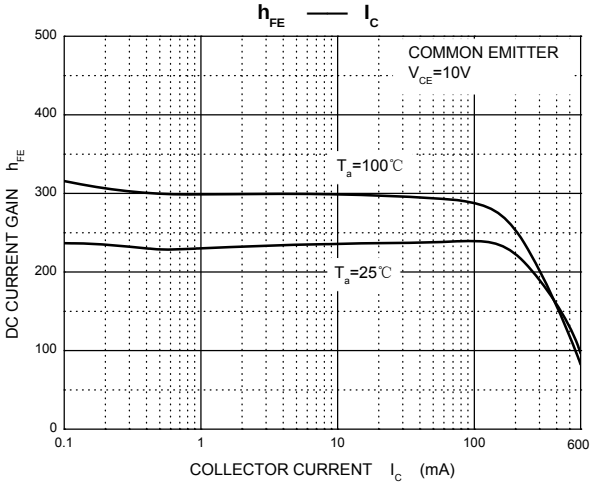
Parameter	Symbol	Test conditions	Min	Max	Unit
Delay time	t_d	V_{CC}=30V, I_C=150mA, $V_{BE(off)}$=0.5V,I_{B1}=15mA		10	ns
Rise time	t_r			25	ns
Storage time	t_S	V_{CC}=30V, I_C=150mA, I_{B1}= -I_{B2}= 15mA		225	ns
Fall time	t_f			60	ns

Typical Characteristics

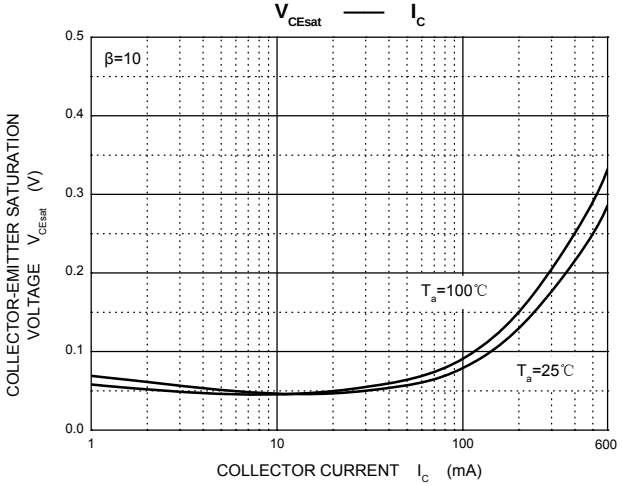
Static Characteristic



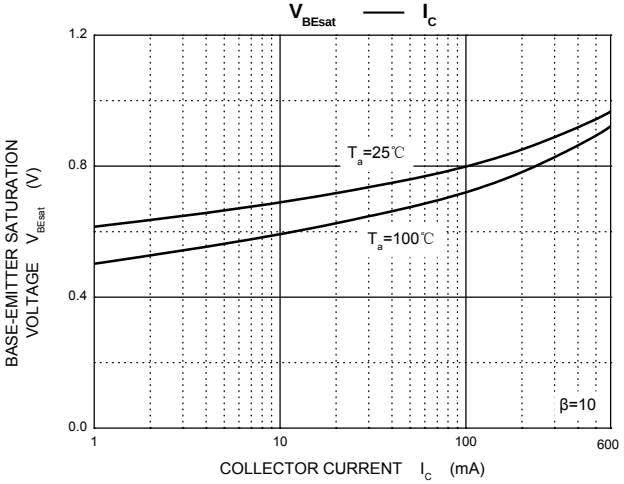
h_{FE} —— I_C



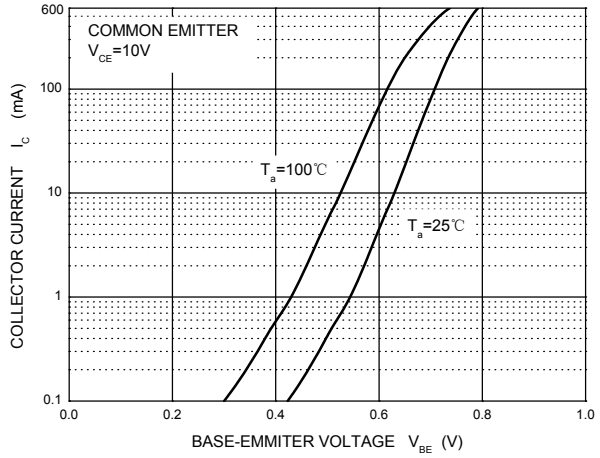
V_{CEsat} —— I_C



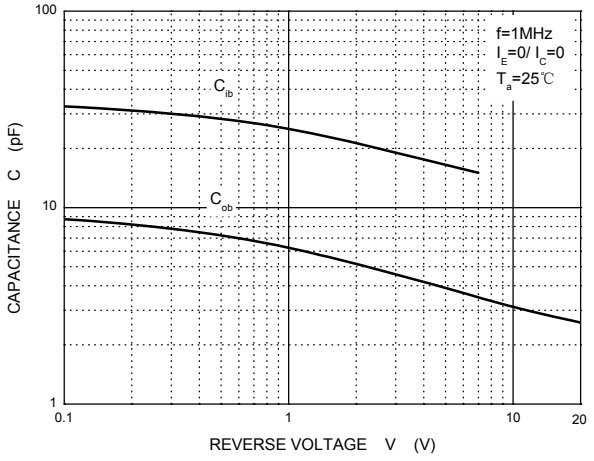
V_{BEsat} —— I_C



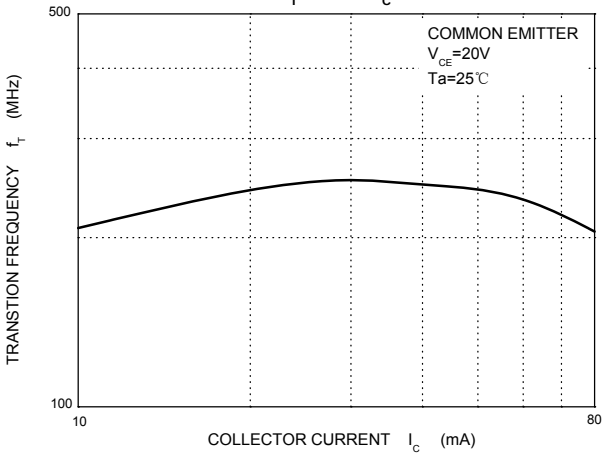
I_C —— V_{BE}



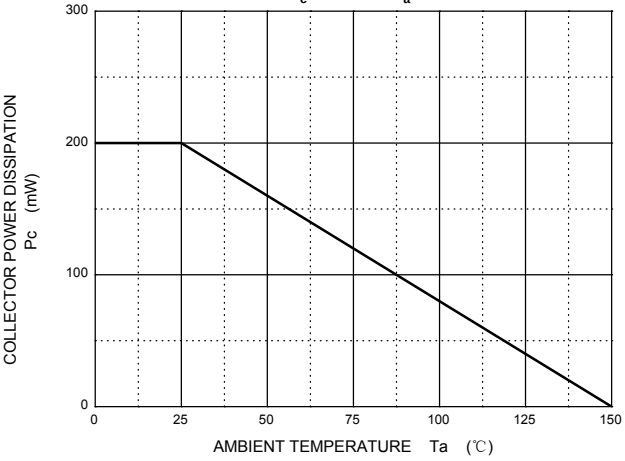
C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}



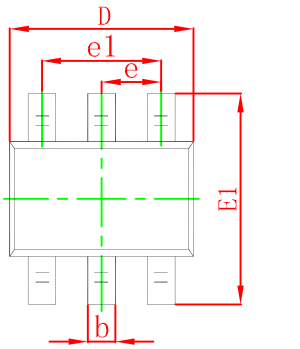
f_T —— I_C

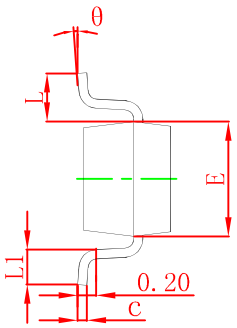


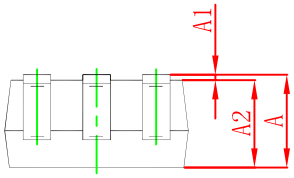
P_c —— T_a



SOT-363 Package Outline Dimensions

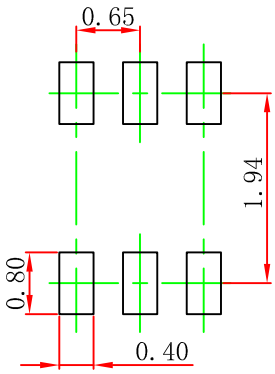






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

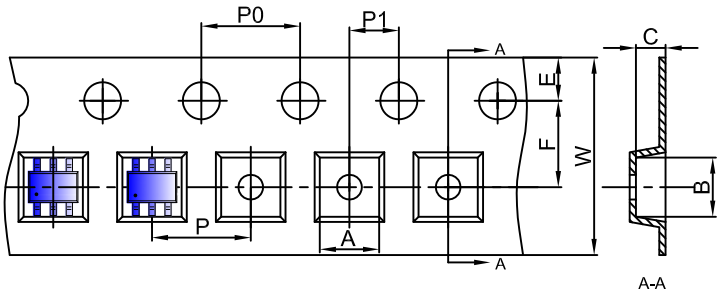
SOT-363 Suggested Pad Layout



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.

SOT-363 Embossed Carrier Tape

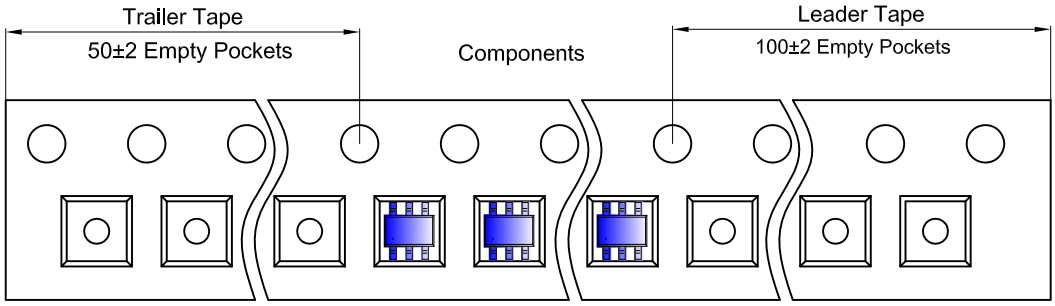


Packaging Description:

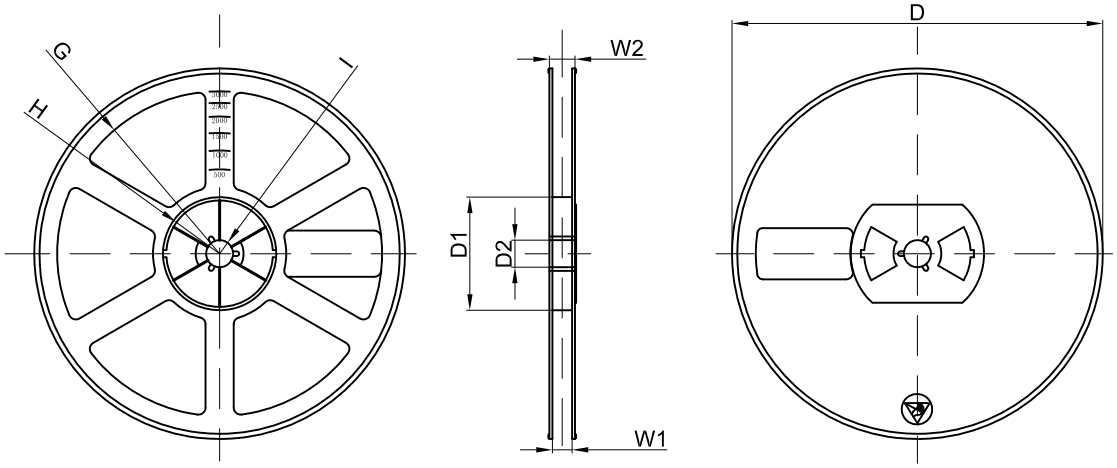
SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm 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
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-363 Tape Leader and Trailer



SOT-363 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	