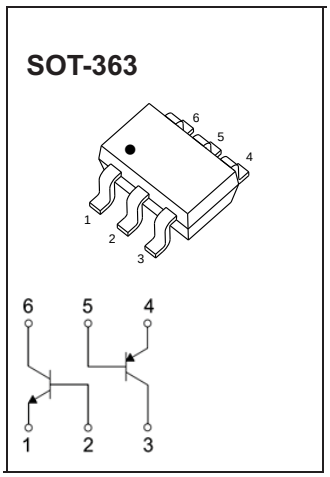
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

SOT-363 Plastic-Encapsulate Transistors

MMDT5451 DUAL TRANSISTOR (NPN+PNP)



FEATURES

- Epitaxial Planar Die Construction
- Ideal for low Power Amplification and Switching
- One 5551(NPN), one 5401(PNP)

MRKING:KNM

MAXIMUM RATINGS NPN 5551 (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.2	A
P_C	Collector Power Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS NPN 5551 (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=120V,I_E=0			0.05	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			0.05	μA
DC current gain	h_{FE1}	V_{CE}=5V,I_C=1mA	80			
	h_{FE2}	V_{CE}=5V,I_C=10mA	100		300	
	h_{FE3}	V_{CE}=5V,I_C=50mA	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA			0.15	V
		I_C=50mA, I_B=5mA			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA			1	V
		I_C=50mA, I_B=5mA			1	V
Output Capacitance	C_{obo}	V_{CB} = 10V, f = 1.0MHz, I_E = 0			6.0	pF
Current Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 10mA, f = 100MHz	100		300	MHz
Noise Figure	NF	V_{CE}= 5.0V, I_C = 200μA, R_S = 1.0kΩ, f = 1.0kHz			8.0	dB

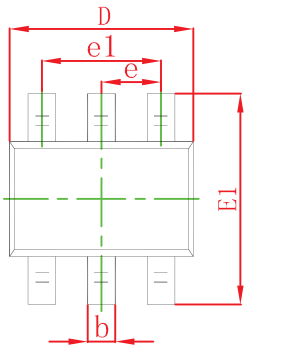
MAXIMUM RATINGS PNP 5401 (T_a=25℃ unless otherwise noted)

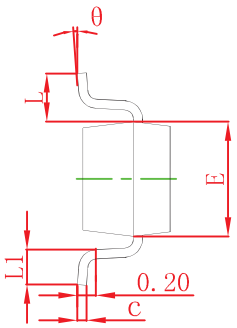
Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.2	A
P_C	Collector Power Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

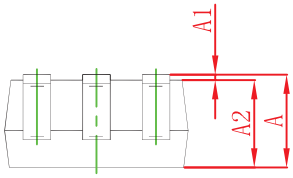
ELECTRICAL CHARACTERISTICS PNP 5401 (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-120V,I_E=0			-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-3V,I_C=0			-50	nA
DC current gain	h_{FE1}	V_{CE}=-5V,I_C=-1mA	50			
	h_{FE2}	V_{CE}=-5V,I_C=-10mA	100		300	
	h_{FE3}	V_{CE}=-5V,I_C=-50mA	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA			-0.2	V
		I_C=-50mA, I_B=-5mA			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA			-1	V
		I_C=-50mA, I_B=-5mA			-1	V
Output Capacitance	C_{obo}	V_{CB} =-10V, f = 1.0MHz, I_E = 0			6.0	pF
Current Gain-Bandwidth Product	f_T	V_{CE} =-10V, I_C =-10mA, f = 100MHz	100		300	MHz
Noise Figure	NF	V_{CE}=-5.0V, I_C =-200μA, R_S = 10Ω, f = 1.0kHz			8.0	dB

SOT-363 Package Outline Dimensions

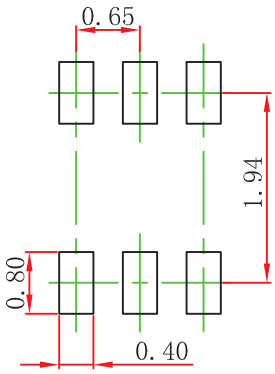






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 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°

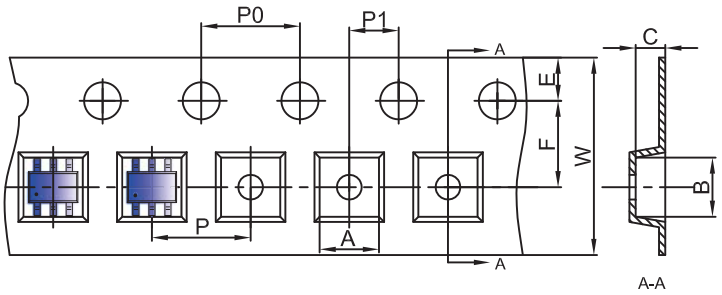
SOT-363 Suggested Pad Layout



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

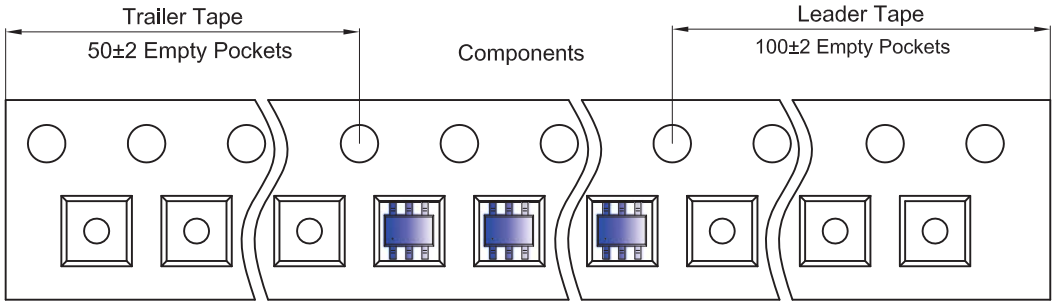


Packaging Description:

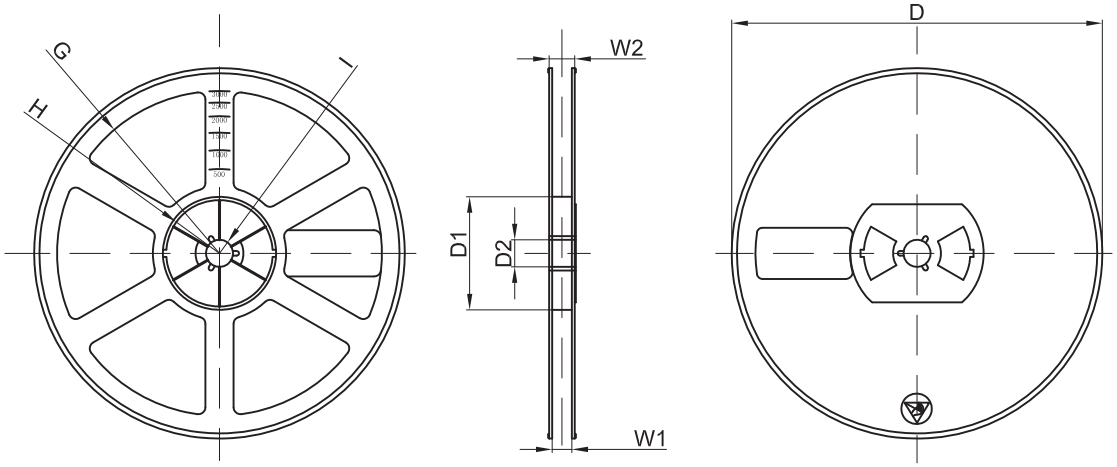
SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	