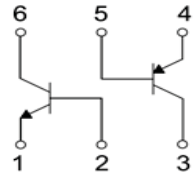
迈拓电子
MAITUO ELECTRONIC

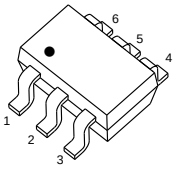
MMDT5451DW **Plastic-Encapsulate Transistors**

DUAL TRANSISTOR (NPN+PNP)



FEATURES

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



SOT-363

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	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-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

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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	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-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

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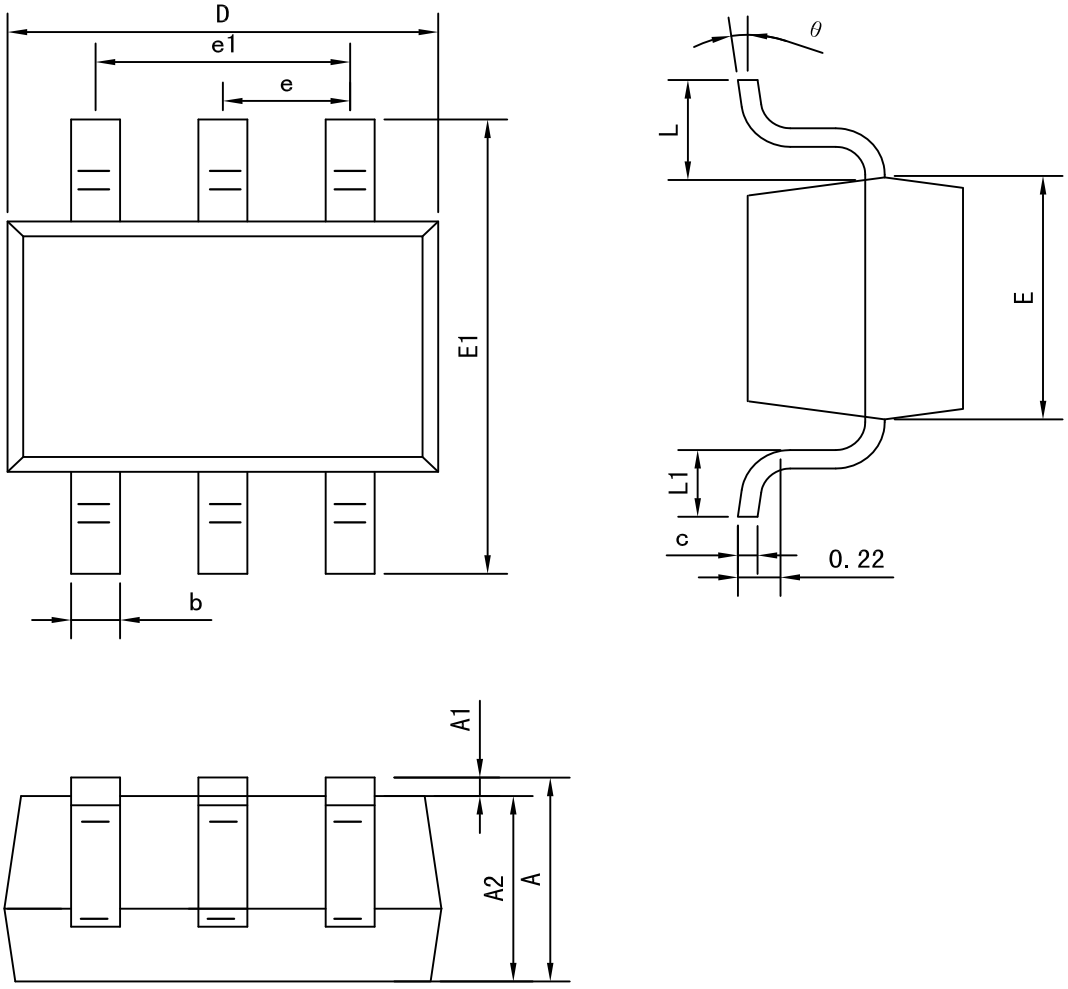
SOT-363 Package outline dimensions



Symbol	Dimension in Millimeters	
	Min	**Max**
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°

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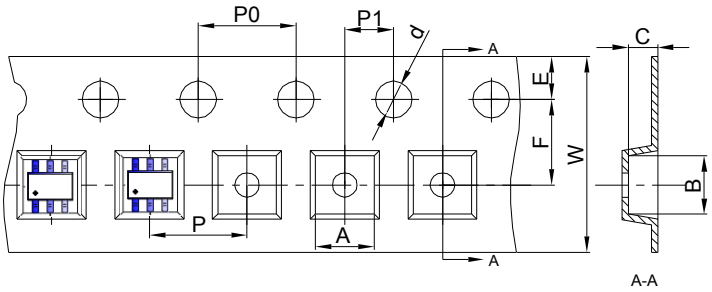
SOT-363 Embossed Carrier Tape



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