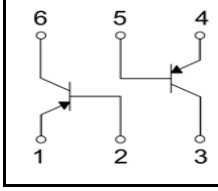
SHENZHEN JIECHENG SEMICONDUCTOR TECHNOLOGY CO., LTD

SOT-363 Plastic-Encapsulate Transistors

MMDT4403

DUAL TRANSISTOR (PNP+PNP)

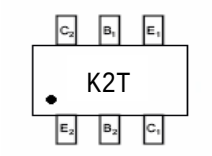
SOT-363



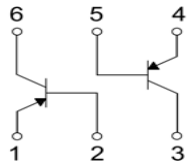
FEATURES

- Epitaxial planar die construction
- Ideal for low power amplification and switching

MARKING



Equivalent Circuit



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

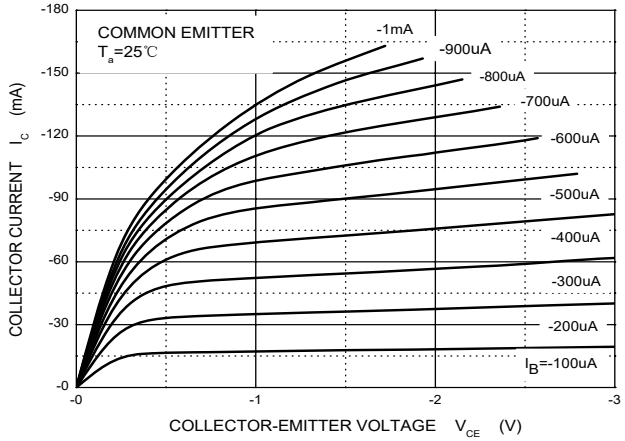
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.6	A
P_C	Collector Power Dissipation	0.2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

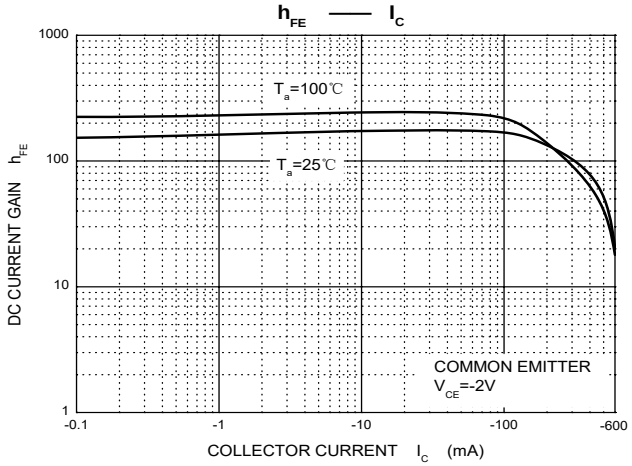
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA , I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA , I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-35V, I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0			-0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-1V, I_C= -0.1mA	30			
	$h_{FE(2)}$	V_{CE}=-1V, I_C= -1mA	60			
	$h_{FE(3)}$	V_{CE}=-1 V, I_C= -10mA	100			
	$h_{FE(4)}$	V_{CE}=-2 V, I_C= -150mA	100		300	
	$h_{FE(5)}$	V_{CE}=-2 V, I_C= -500mA	20			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=-150 mA, I_B=-15mA			-0.4	V
	$V_{CE(sat)2}$	I_C=-500 mA, I_B=-50mA			-0.75	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C= -150 mA, I_B=-15mA	-0.75		-0.95	V
	$V_{BE(sat)2}$	I_C= -500 mA, I_B=-50mA			-1.3	V
Transition frequency	f_T	V_{CE}= -10V, I_C=-20mA,f = 100MHz	200			MHz
Output capacitance	C_{ob}	V_{CB}=-10V, I_E=0,f=1MHz			8.5	pF
Delay time	t_d	V_{CC}=-30V, V_{BE}=-2V,I_C=-150mA , I_{B1}=-15mA			15	nS
Rise time	t_r				20	nS
Storage time	t_S	V_{CC}=-30V, I_C=-150mA I_{B1}=- I_{B2}= -15mA			225	nS
Fall time	t_f				30	nS

Typical Characteristics

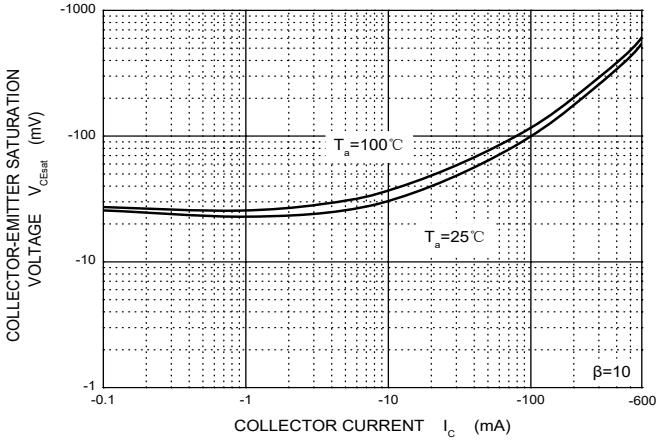
Static Characteristic



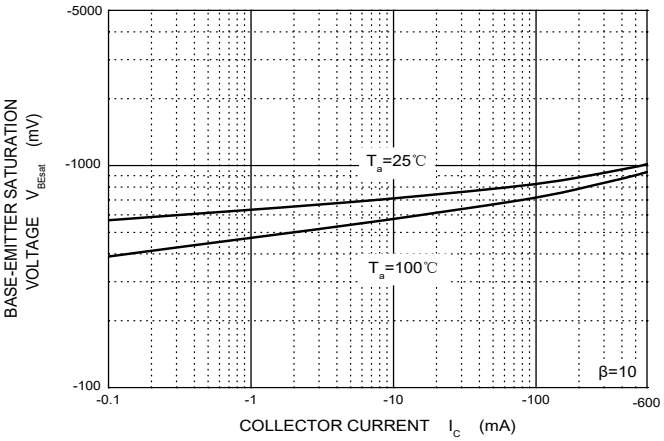
h_{FE} —— I_C



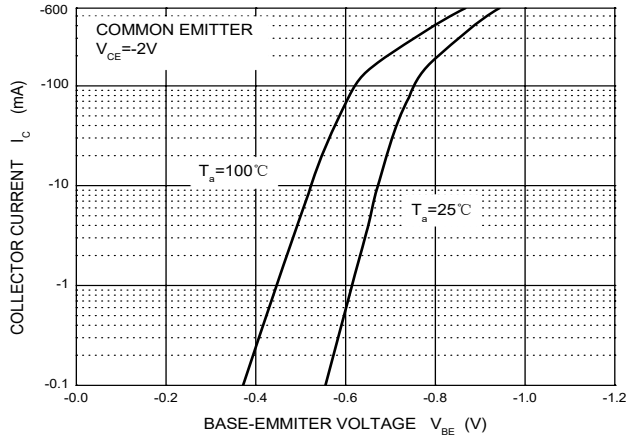
V_{CEsat} —— I_C



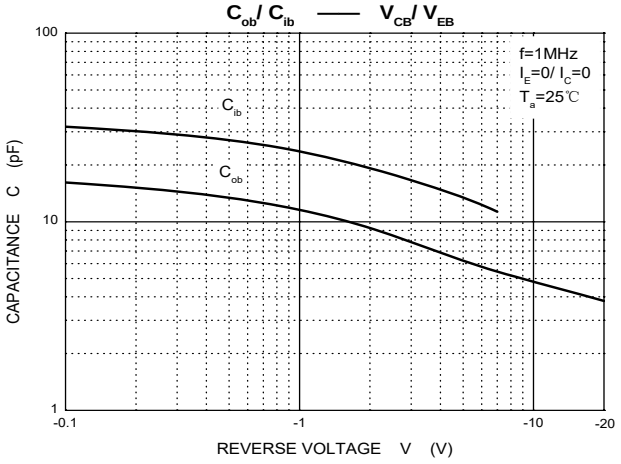
V_{BEsat} —— I_C



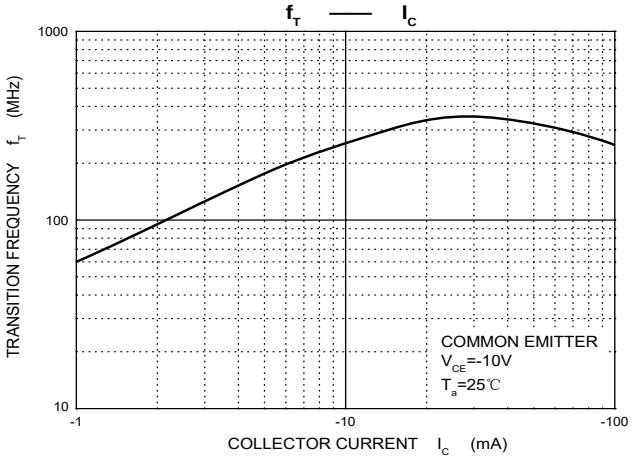
I_C —— V_{BE}



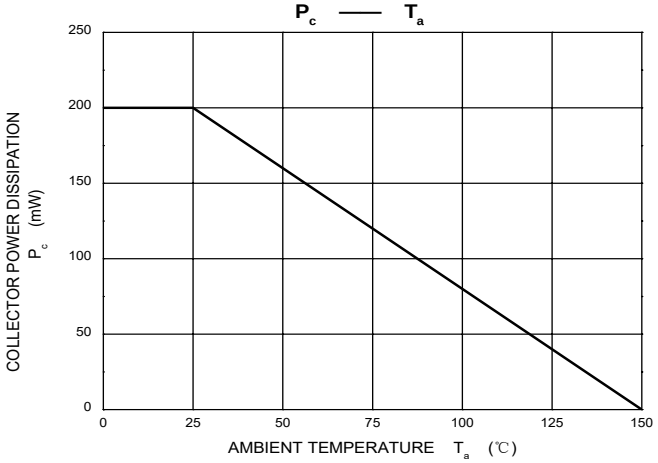
C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}



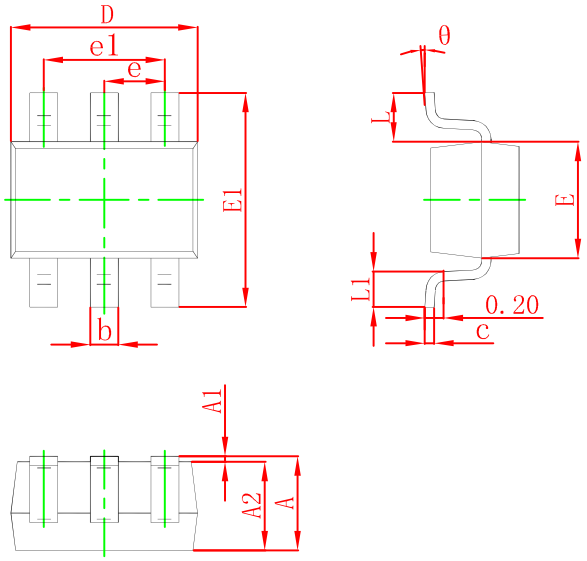
f_T —— I_C



P_c —— T_a

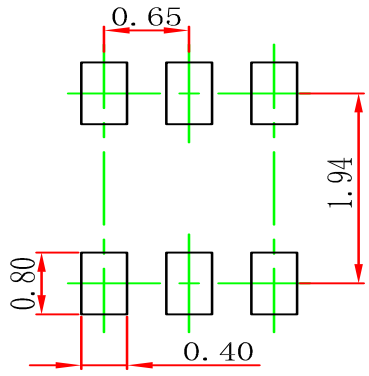


Package Outline Dimensions (SOT-363)



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°

Suggested Pad Layout (SOT-363)



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