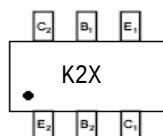
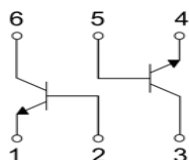
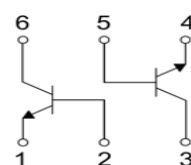
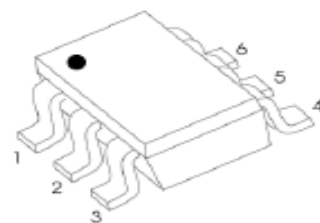


SOT-363 Plastic-Encapsulate Transistors**MMDT4401**

DUAL TRANSISTOR (NPN+NPN)

FEATURES

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

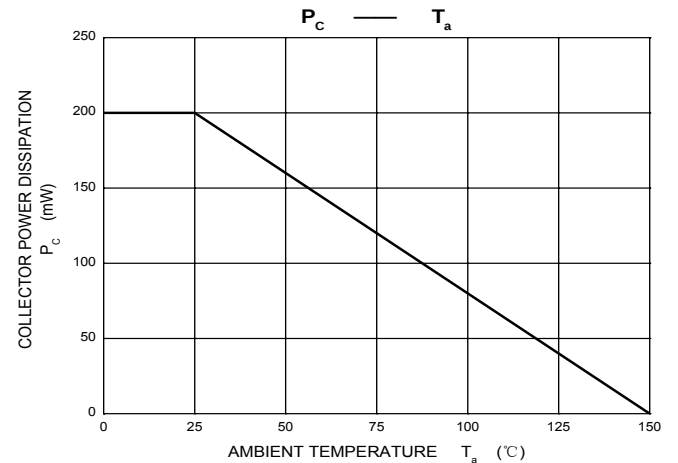
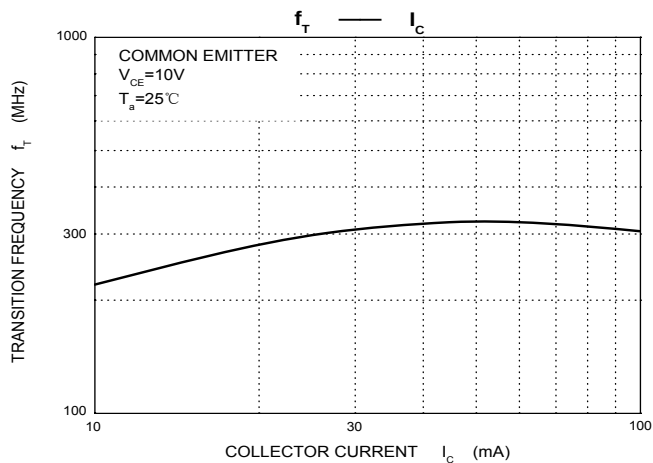
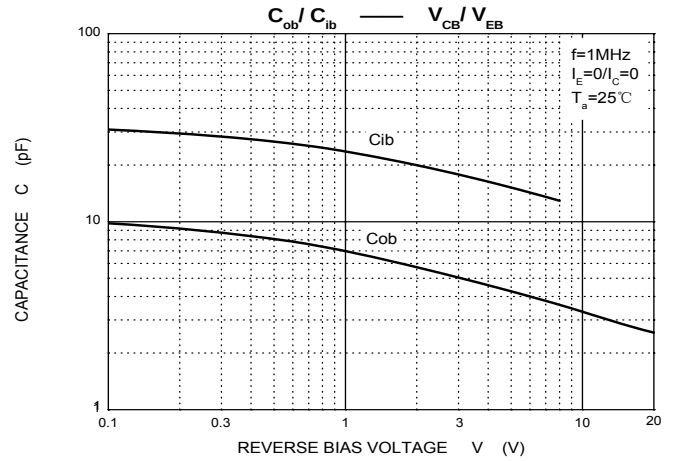
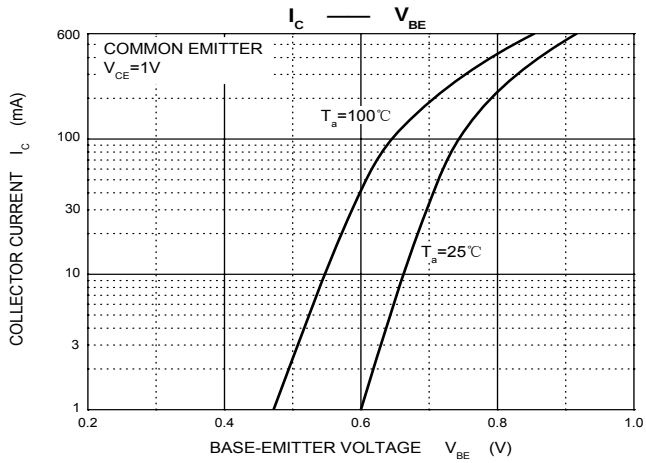
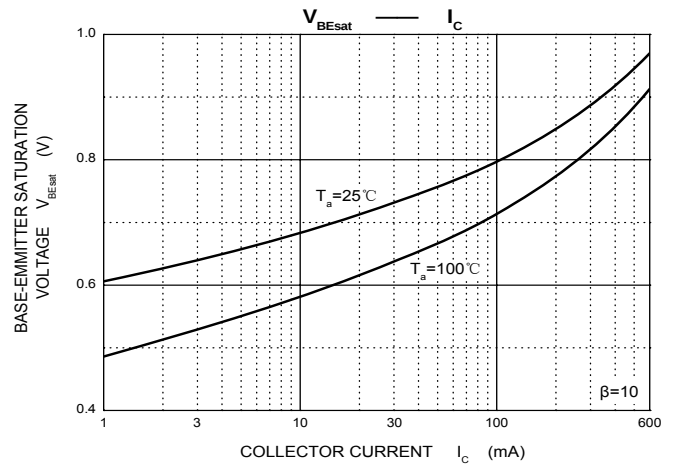
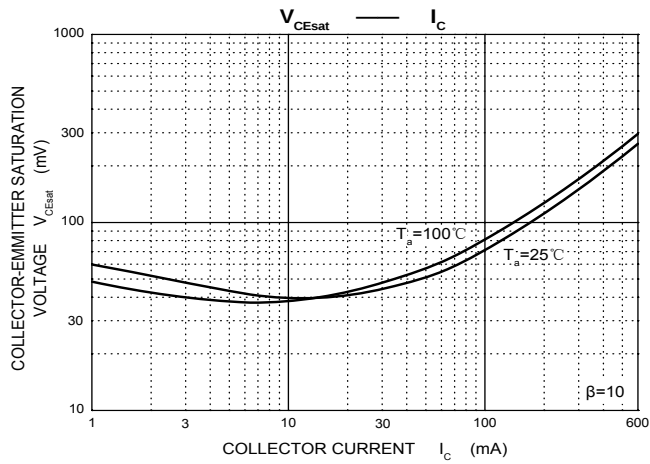
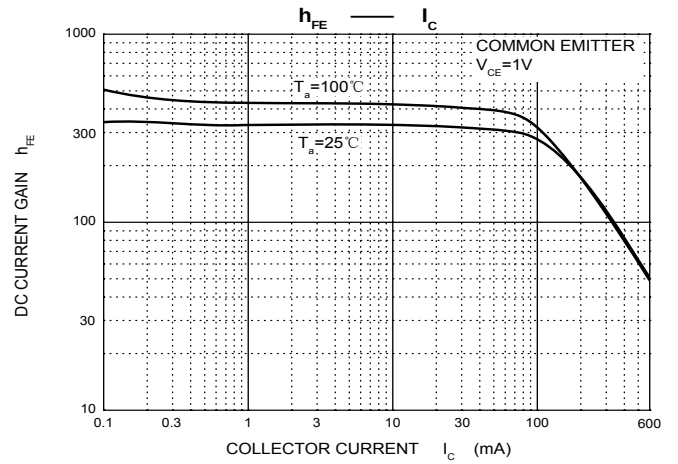
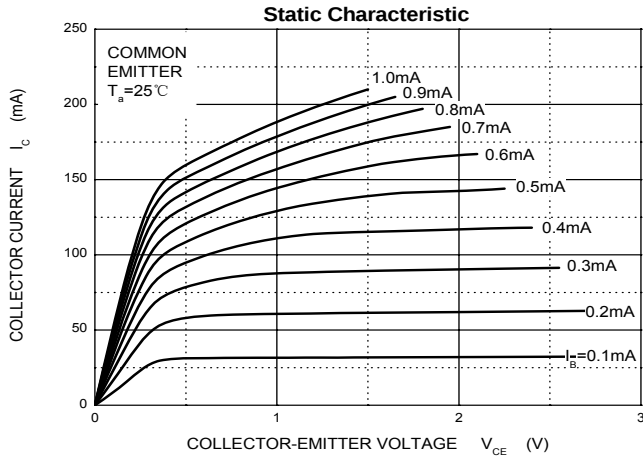
MARKING**Equivalent Circuit****SOT-363****MAXIMUM RATINGS** ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	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	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	$^{\circ}\text{C}$

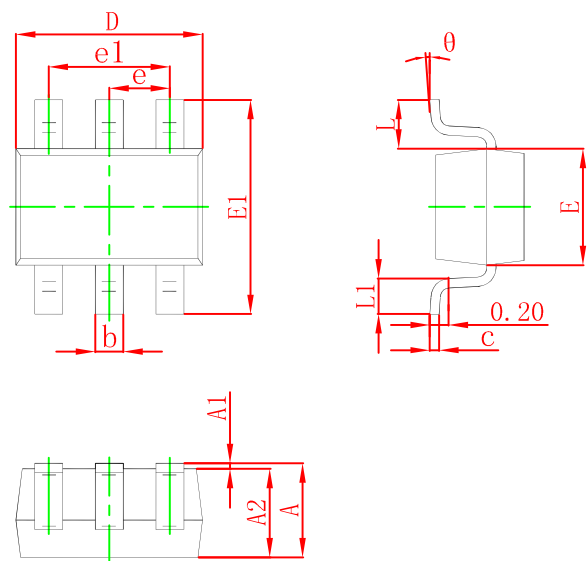
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\ \mu\text{A}, I_E = 0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\ \mu\text{A}, I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB} = 50\text{V}, I_E = 0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 35\text{V}, I_B = 0$		0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1\text{V}, I_C = 0.1\text{mA}$	20		
	$h_{FE(2)}$	$V_{CE} = 1\text{V}, I_C = 1\text{mA}$	40		
	$h_{FE(3)}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	80		
	$h_{FE(4)}$	$V_{CE} = 1\text{V}, I_C = 150\text{mA}$	100	300	
	$h_{FE(5)}$	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$		0.4	V
	$V_{CE(sat)2}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$		0.75	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	0.75	0.95	V
	$V_{BE(sat)2}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$		1.2	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 20\text{mA}, f = 100\text{MHz}$	250		MHz
Output capacitance	C_{ob}	$V_{CB} = 5\text{V}, I_E = 0, f = 1\text{MHz}$		6.5	pF
Delay time	t_d	$V_{CC} = 30\text{V}, V_{BE} = 2\text{V}, I_C = 150\text{mA}, I_{B1} = 15\text{mA}$		15	nS
Rise time	t_r			20	nS
Storage time	t_s	$V_{CC} = 30\text{V}, I_C = 150\text{mA}, I_{B1} = -I_{B2} = 15\text{mA}$		225	nS
Fall time	t_f			30	nS

Typical Characteristics

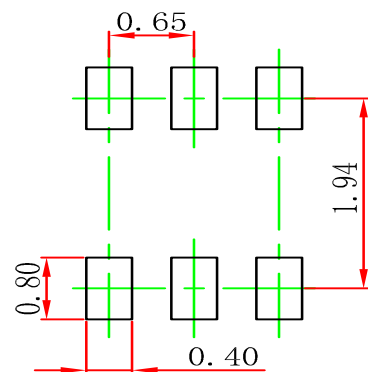


Package Outline Dimensions (SOT-363)



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.