

MSKSEMI

SEMICONDUCTOR



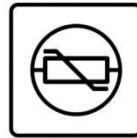
ESD



TVS



TSS



MOV

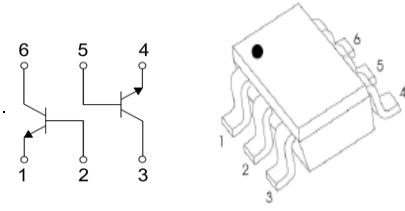


GDT



PLED

Product data sheet



SOT-363

MMDT4401

DUAL TRANSISTOR (NPN+NPN)

FEATURES

- Epitaxial Planar Die Construction
- Ideal for Low Power Amplification and Switching

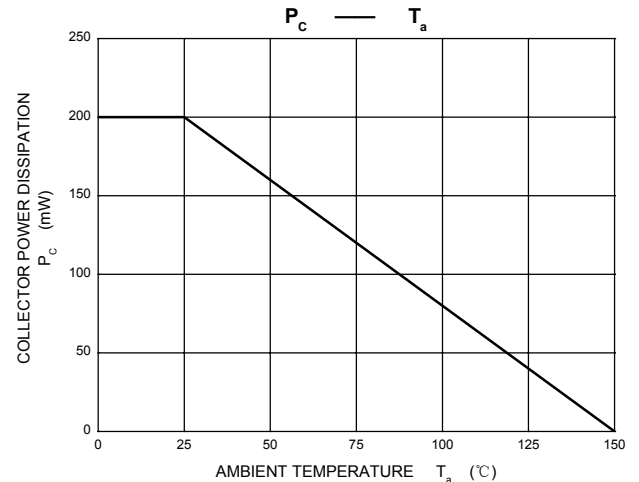
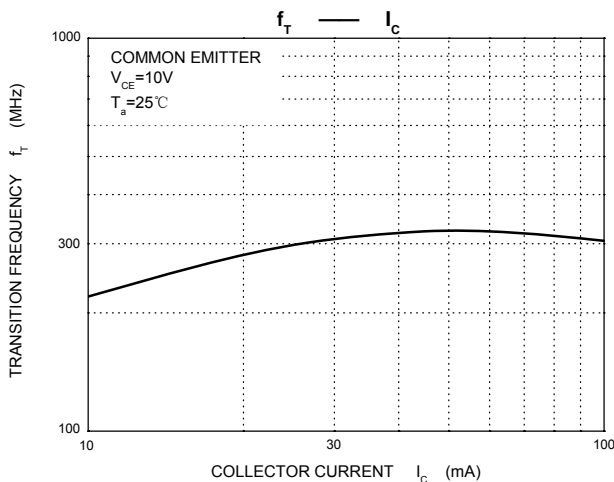
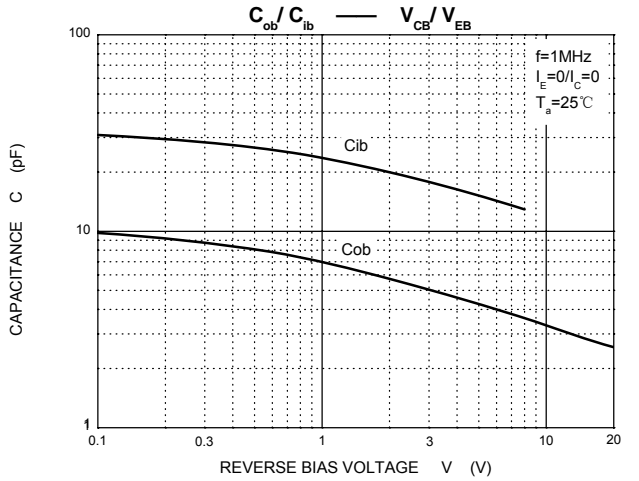
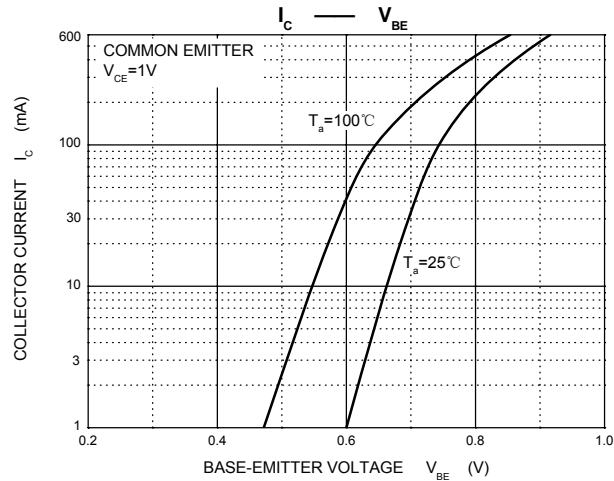
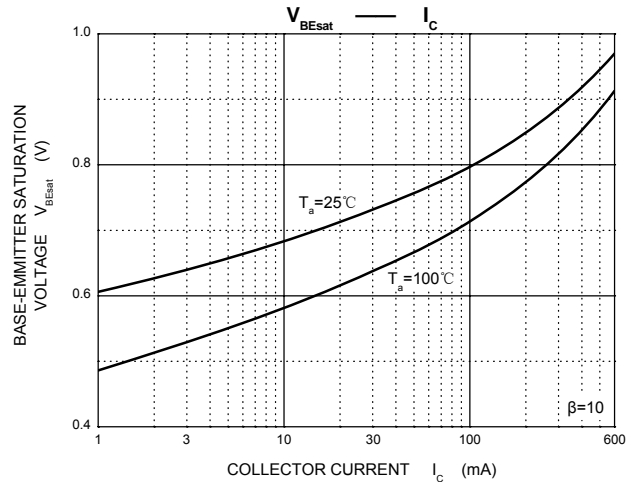
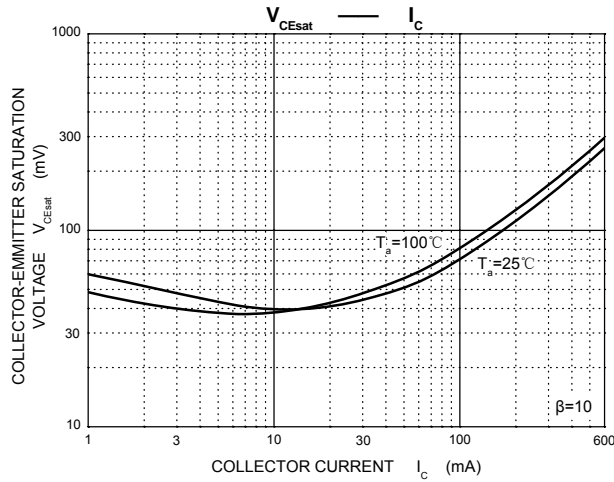
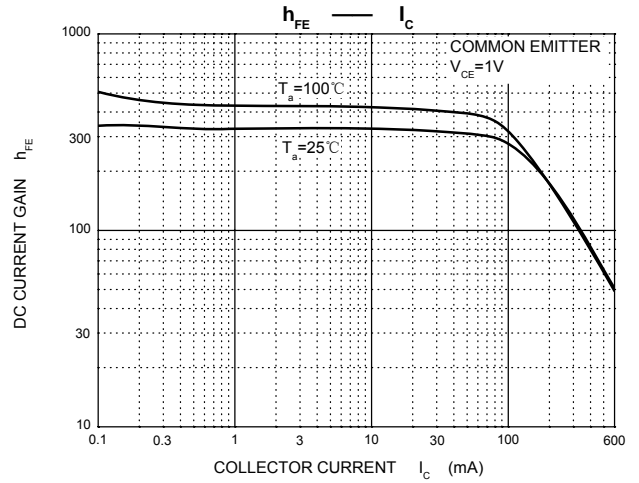
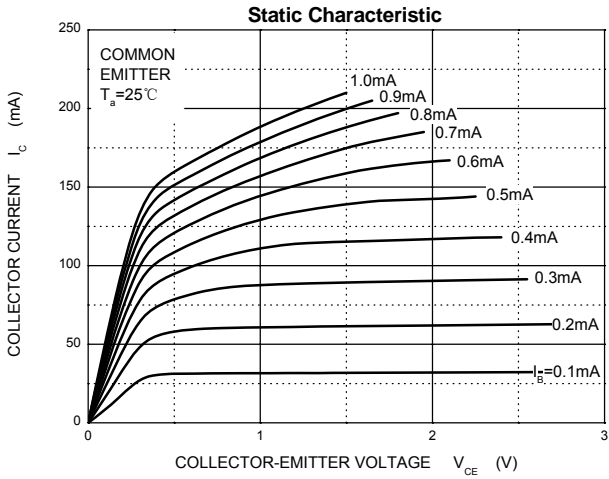
MRKING:K2X

Maximum Ratings (Ta = 25°C unless otherwise specified)

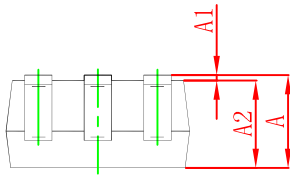
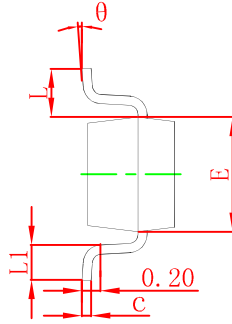
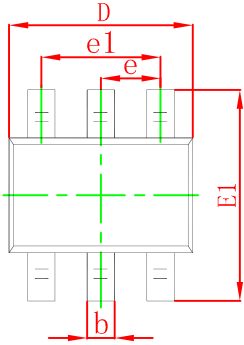
Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	40	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	0.6	A
P _C	Collector Power Dissipation	0.2	W
R _{θJA}	Thermal Resistance from Junction to Ambient	625	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55 to +150	°C

NPN 4401 ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100 μA, I _E =0	60		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 = 100 μA, I _C =0	6		V
Collector cut-off current	I _{CBO}	V _{CB} = 50 V, I _E =0		0.1	μA
Collector cut-off current	I _{CEO}	V _{CE} = 35 V, I _B =0		0.5	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	20		
	h _{FE(2)}	V _{CE} = 1V, I _C = 1mA	40		
	h _{FE(3)}	V _{CE} = 1V, I _C = 10mA	80		
	h _{FE(4)}	V _{CE} = 1V, I _C = 150mA	100	300	
	h _{FE(5)}	V _{CE} = 2V, I _C = 500mA	40		
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		1.2	V
Transition frequency	f _T	V _{CE} = 10V, I _C = 20mA, f=100MHz	250		MHz
Output capacitance	C _{ob}	V _{CB} =5V, I _E = 0, f=1MHz		6.5	pF
Delay time	t _d	V _{CC} =30V,		15	nS
Rise time	t _r	V _{BE} =2V, I _C =150mA, I _{B1} =15mA		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

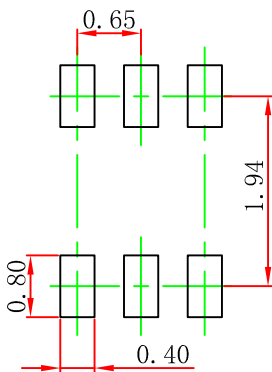


SOT-363 Package Outline Dimensions



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
theta	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.

REEL SPECIFICATION

P/N	PKG	QTY
MMDT4401	SOT-363	3000

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