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SEMICONDUCTOR



ESD



TVS



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MOV



GDT



PLED

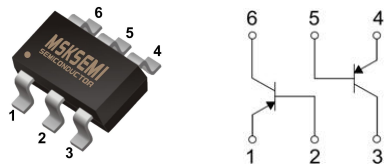

MMDT5401

Product specification

FEATURES

- Epitaxial Planar Die Construction
- Complementary NPN Type Available(MMDT 5551)
- Ideal for Medium Power Amplification and Switching

Reference News

PACKAGE OUTLINE	MARKING
 <p style="text-align: center;">SOT-363</p>	

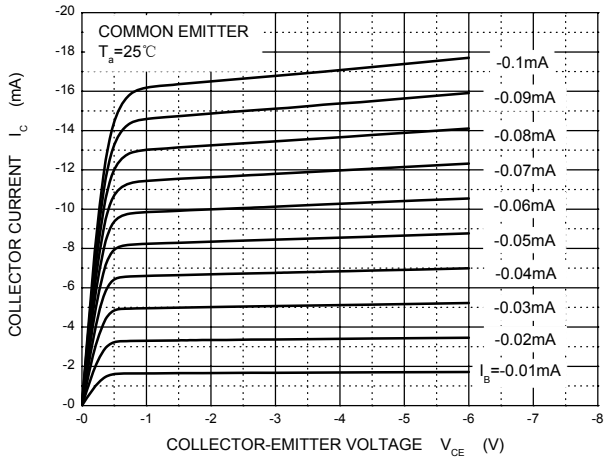
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	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
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

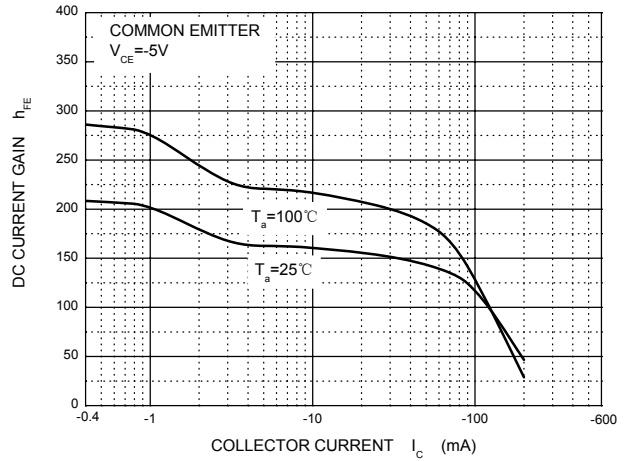
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

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} =-120 V , I _E =0			-0.05	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-3V , I _c =0			-0.05	μA
DC current gain	h _{FE(1)}	V _{CE} =-5 V, I _c = -1mA	50			
	h _{FE(2)}	V _{CE} =-5 V, I _c = -10mA	100		300	
	h _{FE(3)}	V _{CE} =-5 V, I _c = -50mA	50			
Collector-emitter saturation voltage	V _{CE(sat)1}	I _c =-10 mA, I _B =-1mA			-0.2	V
	V _{CE(sat)2}	I _c =-50 mA, I _B =-5mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)1}	I _c = -10 mA, I _B =-1mA			-1	V
	V _{BE(sat)2}	I _c = -50 mA, I _B =-5mA			-1	V
Transition frequency	f _T	V _{CE} = -10V, I _c = -10mA, f = 100MHz	100			MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, I _E = 0, f=1MHz			6	pF
Noise Figure	NF	V _{CE} = -5.0V, I _c = -200μA, R _S = 10Ω, f = 1.0kHz			8.0	dB

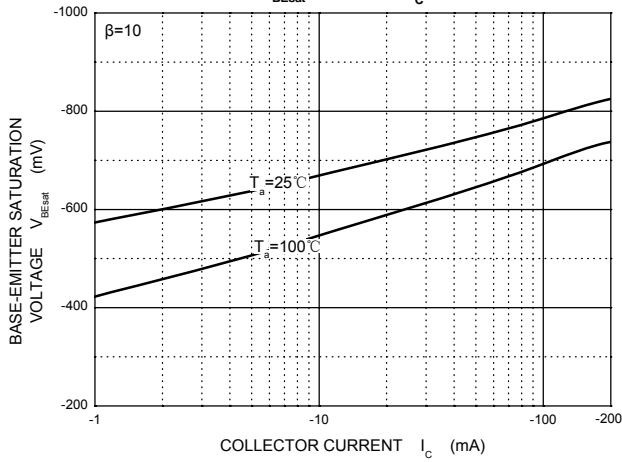
Static Characteristic



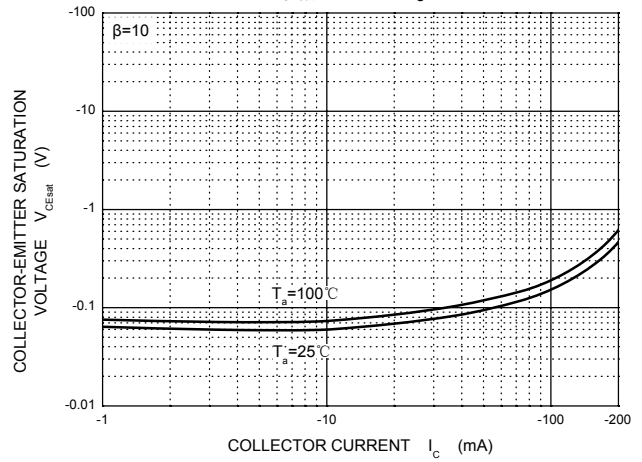
h_{FE} — I_c



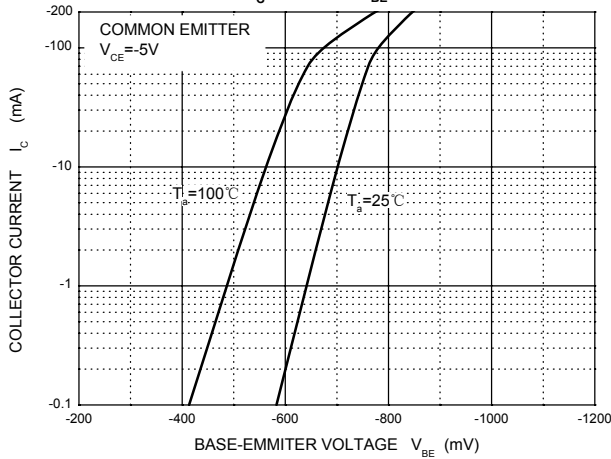
V_{BEsat} — I_c



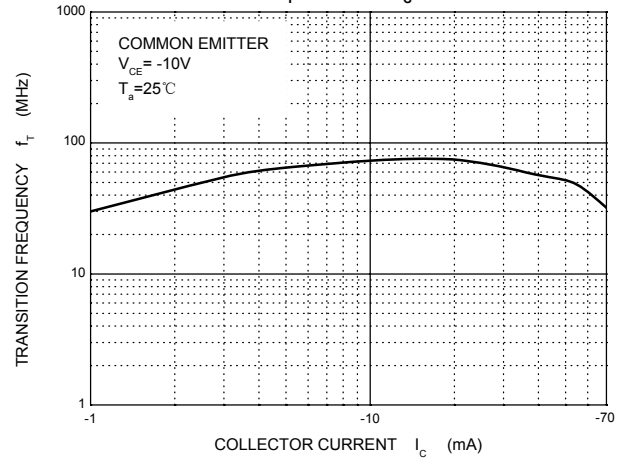
V_{CEsat} — I_c



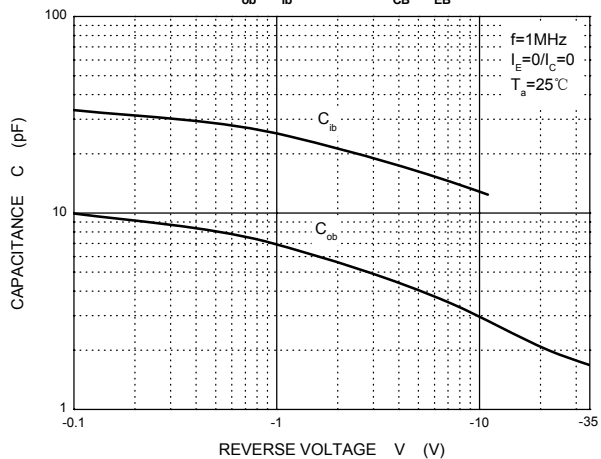
I_c — V_{BE}



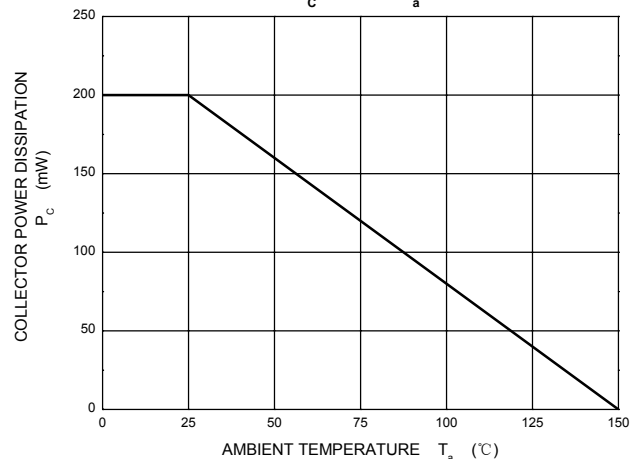
f_T — I_c



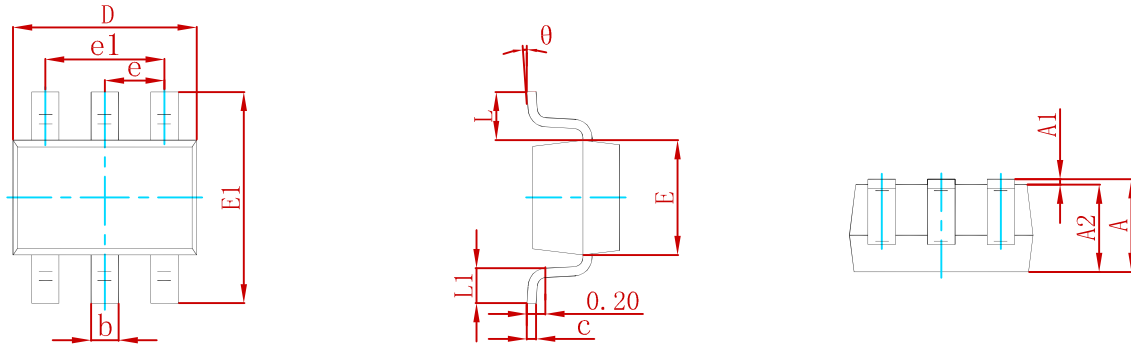
C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a

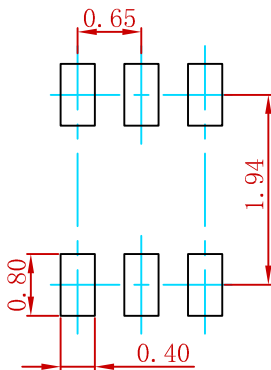


PACKAGE MECHANICAL DATA



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



Note:

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

REEL SPECIFICATION

P/N	PKG	QTY
MMDT5401	SOT-363	3000

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