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電源管理



顯示驅動



二三極管



LDO穩壓器



觸摸芯片



MOS管



運算放大器



存儲芯片



MCU



串口通信

MMBTA42 1D

產品規格說明書

MMBTA42 1D NPN Plastic-Encapsulate Transistors

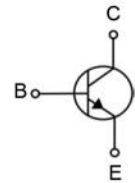
Features

- For Switching and Amplifier Applications
- Complementary Type PNP Transistor
MMBTA56

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBTA06	SOT-23	1GM	3000

SOT-23



Maxmim Ratings (Ta=25°C unless otherwise noted)

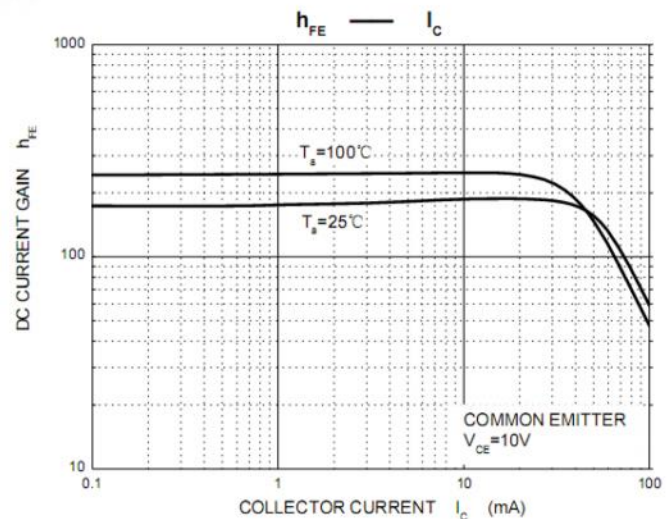
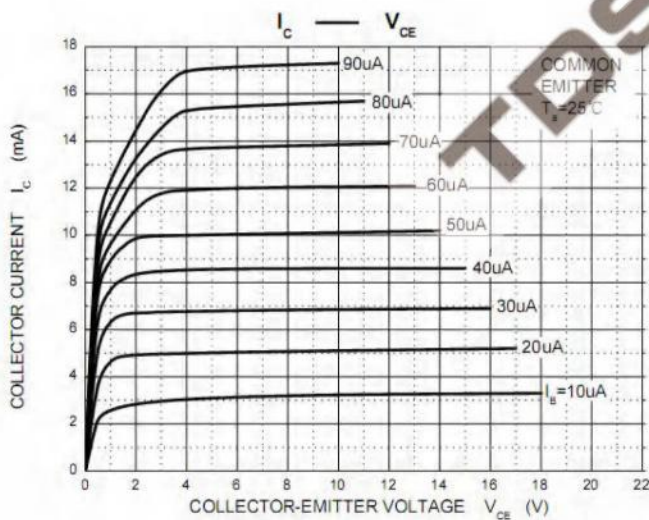
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	416	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

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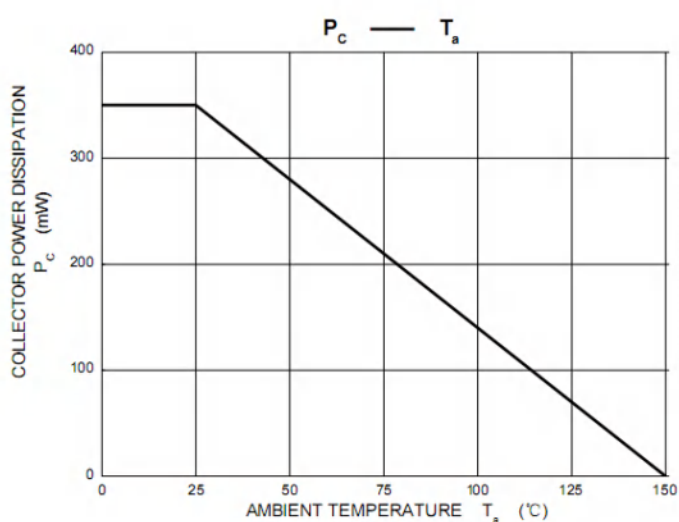
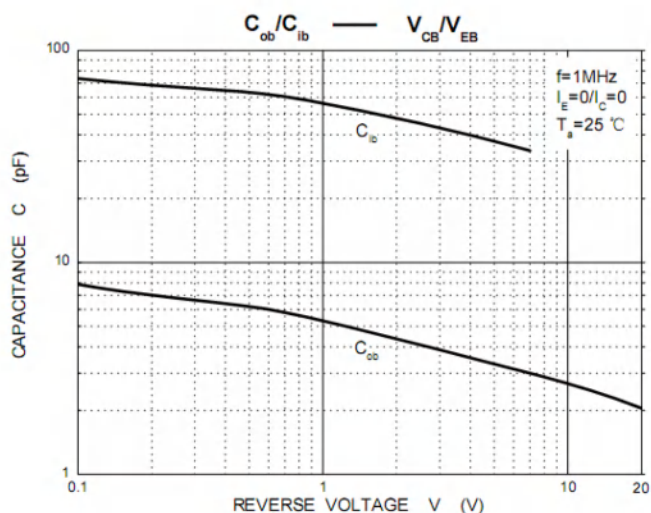
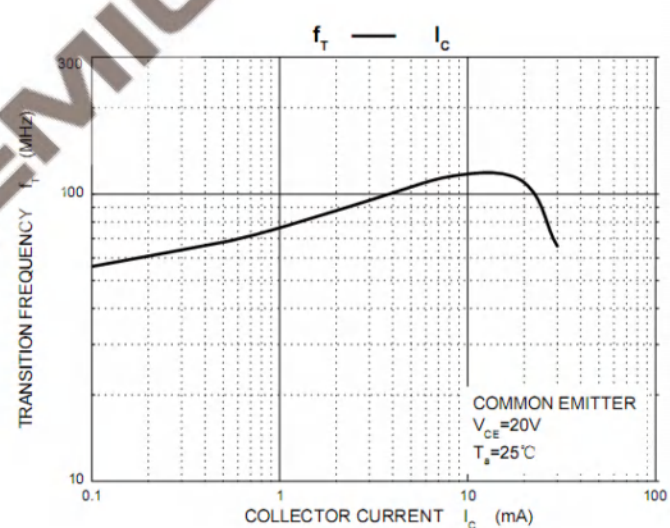
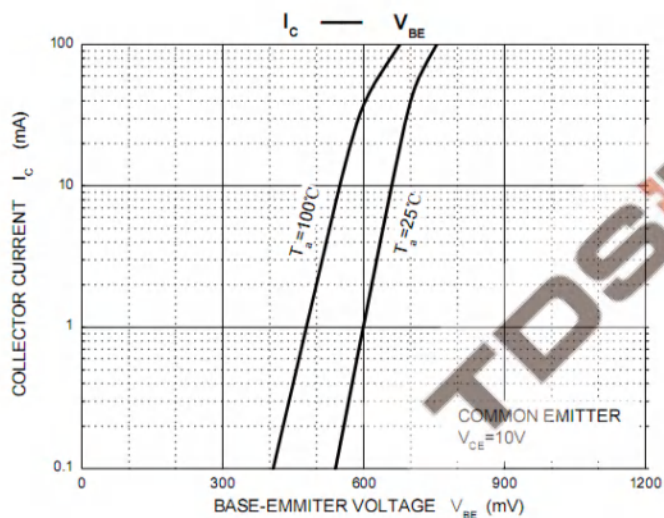
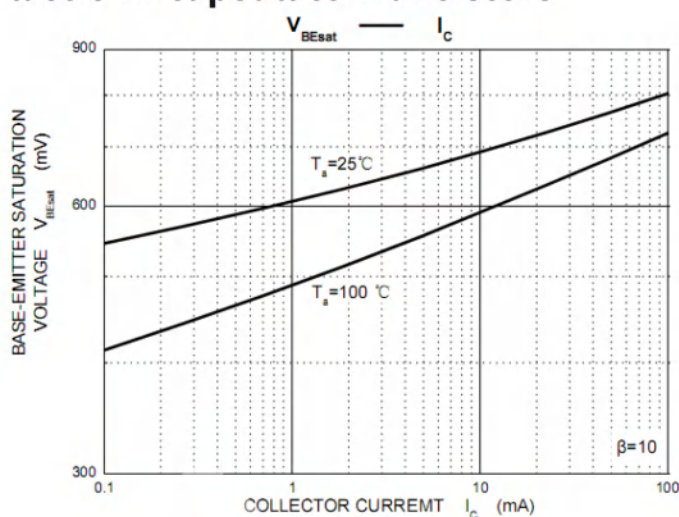
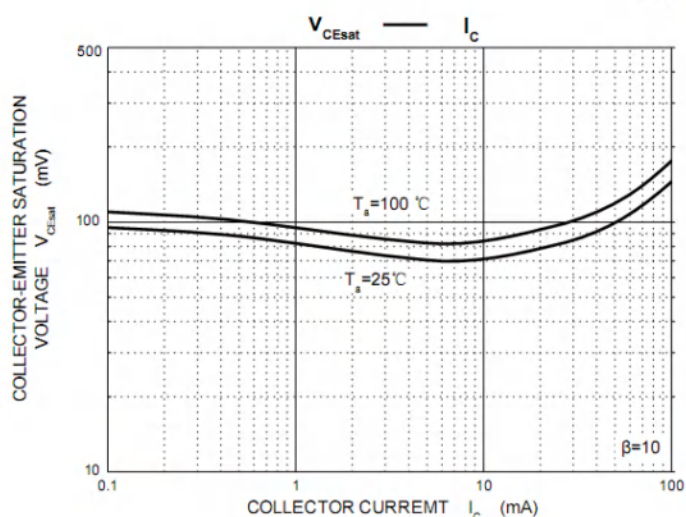
Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	300		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	300		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=200\text{V}, I_E=0$		0.25	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	60		
	$h_{FE(2)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100	200	
	$h_{FE(3)}$	$V_{CE}=10\text{V}, I_C=30\text{mA}$	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$		0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$		0.9	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	50		MHz

Typical Characteristics

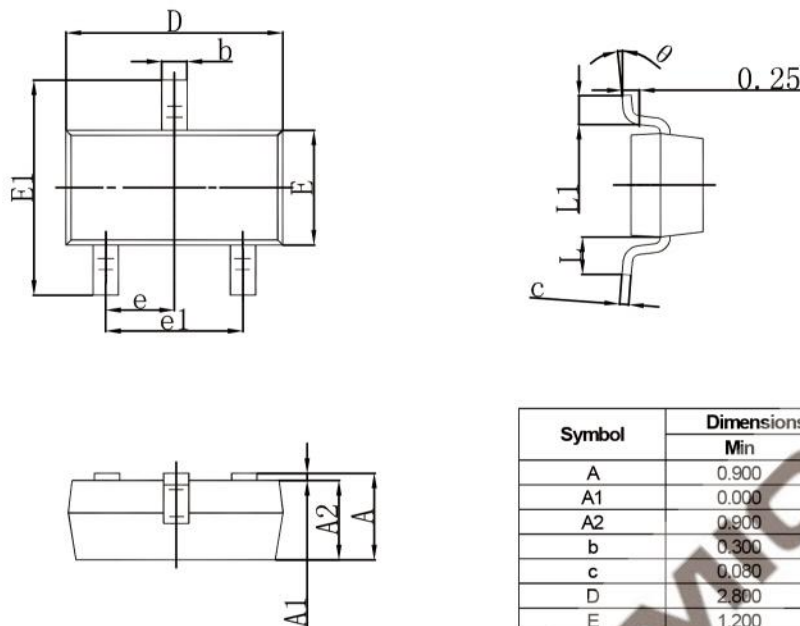


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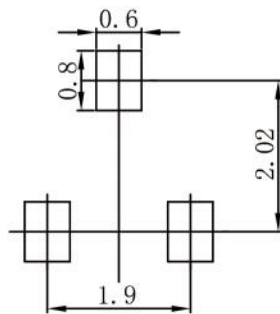
MMBTA42 1D
NPN Plastic-Encapsulate Transistors

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.