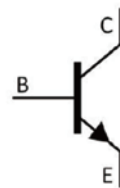


Features

- High Breakdown Voltage.
- Ideal for Medium Power Amplification and Switching.
- Complementary to MMBTA92



SOT23



Equivalent Circuit

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.3	A
P_C	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	350	$^{\circ}\text{C/W}$
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)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	300			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1\text{mA}, I_B=0$	300			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu\text{A}, I_C=0$	6			V
I_{CBO}	Collector cut-off current	$V_{CB}=200\text{V}, I_E=0$			0.25	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}, I_C=0$			0.1	nA
$h_{FE(1)}$	DC current gain	$V_{CE}=10\text{V}, I_C=1\text{mA}$	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			
$V_{CE(sat)1}$	Collector-emitter saturation voltage	$I_C=20\text{mA}, I_B=2\text{mA}$			0.2	V
$V_{BE(sat)1}$	Base-emitter saturation voltage					V
$V_{CE(sat)2}$	Collector-emitter saturation voltage	$I_C=20\text{mA}, I_B=2\text{mA}$			0.9	V
$V_{BE(sat)2}$	Base-emitter saturation voltage					V
f_T	Transition frequency	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	50			MHz
C_{ob}	Collector output capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			6	pF

Ordering information

Product ID	Pack	Naming rule	Marking	$h_{FE(1)}$	Qty(PCS)
MMBTA42	SOT23	MMBTA42 ↓ 产品名称 product name	1D	100-200	3000



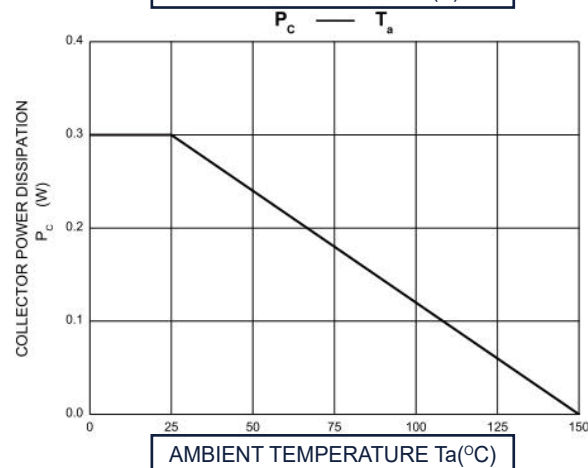
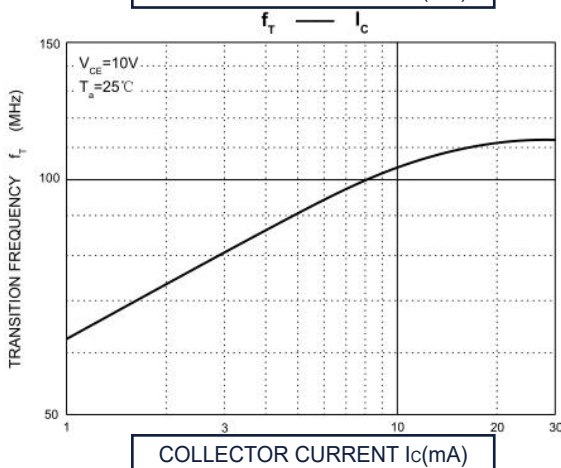
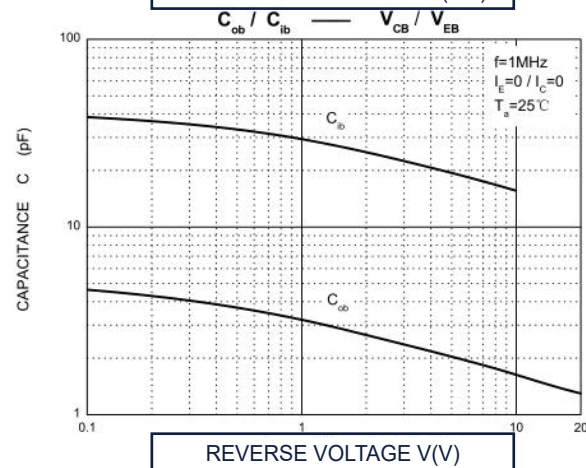
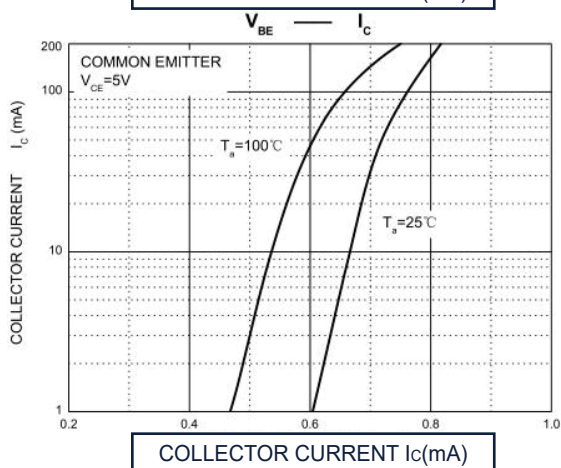
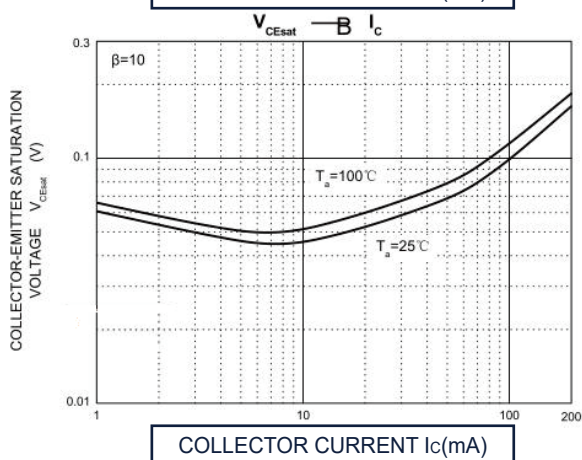
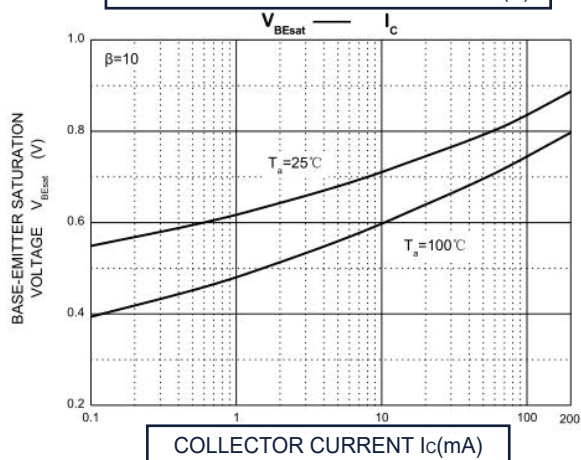
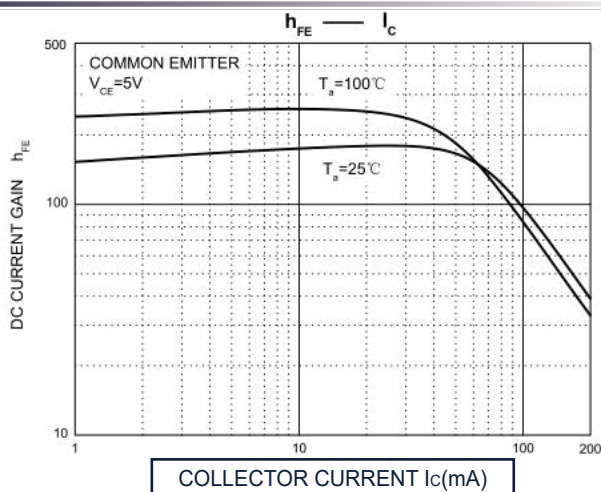
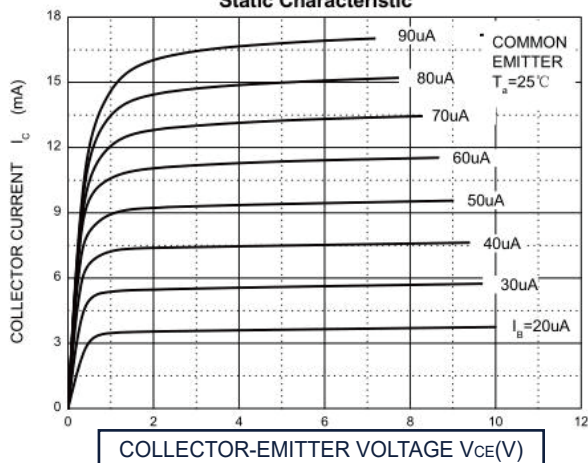
TWTLSEMI

TL-MMBTA42

SOT23 Plastic-Encapsulate Transistors (NPN)

Typical Characteristics

Static Characteristic





SOT23 Package Outline Dimensions



Symbol	Dimensions in Millimeters	
	mm	
	Min	Max
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°