

MMBTA42

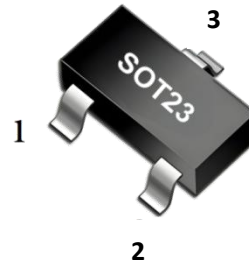
NPN SILICON TRANSISTOR

DESCRIPTION

The MMBTA42 are high voltage transistors, designed for telephone switch and high voltage switch.

FEATURES

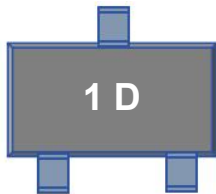
- * High breakdown voltage
- * Low collector-emitter saturation voltage
- * Complementary to MMBTA92



- | | |
|----|-----------|
| 1. | BASE |
| 2. | EMITTER |
| 3. | COLLECTOR |

MARKING

Type Code: Marking: 1 D



ABSOLUTE MAXIMUM RATINGS (Tc=25°C, unless otherwise specified)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-base voltage	300	V
V _{CEO}	Collector-emitter voltage	300	V
V _{EBO}	Emitter-base voltage	5	V
I _C	Collector Current -Continuous	0.3	A
I _{CM}	Collector Current-Peak	0.5	A
P _C	Collector Power Dissipation	350	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C
R _{θJA}	Thermal Resistance From Junction To Ambient	357	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

ELECTRICAL CHARACTERISTICS (Tc=25°C, unless otherwise specified)

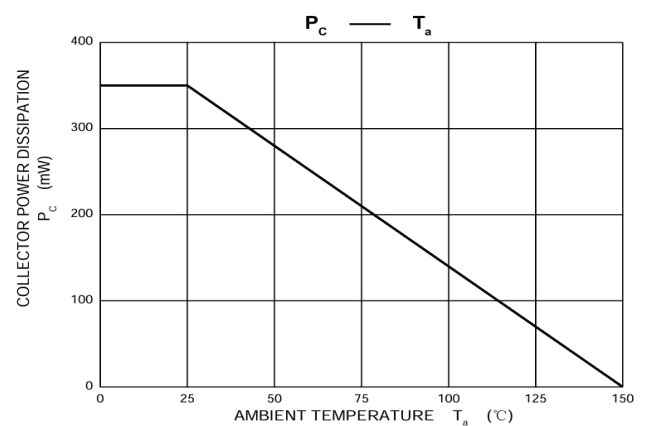
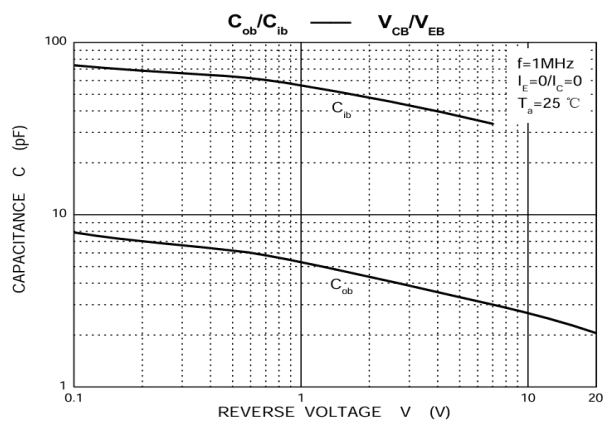
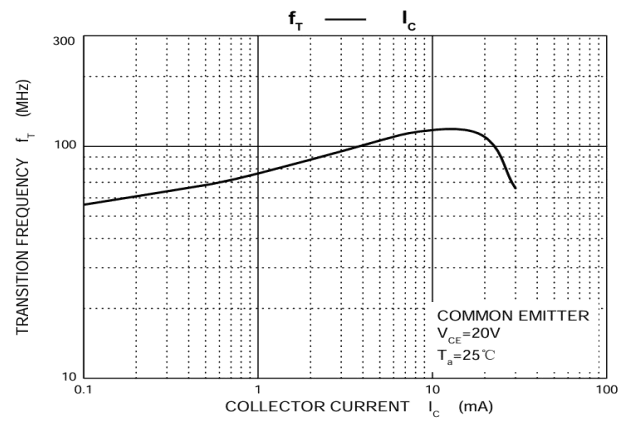
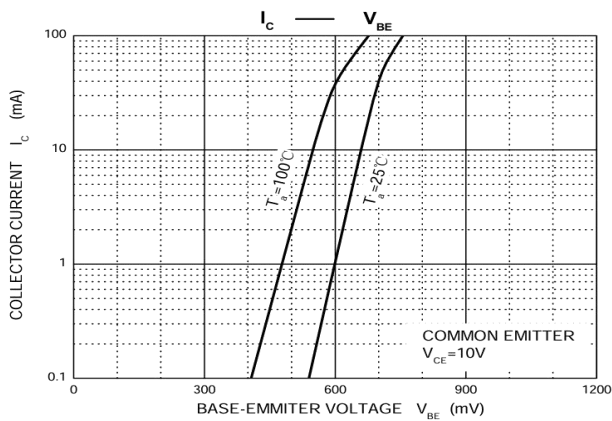
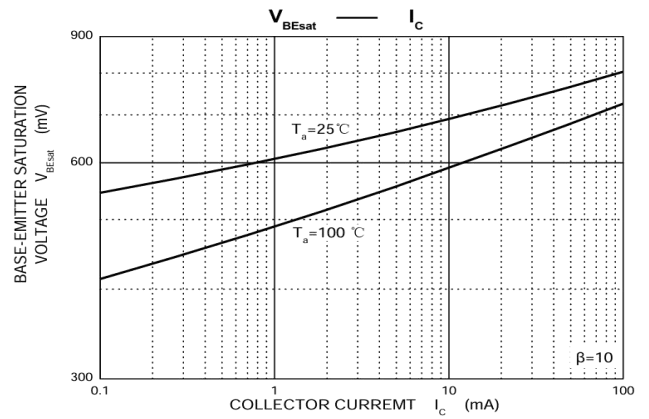
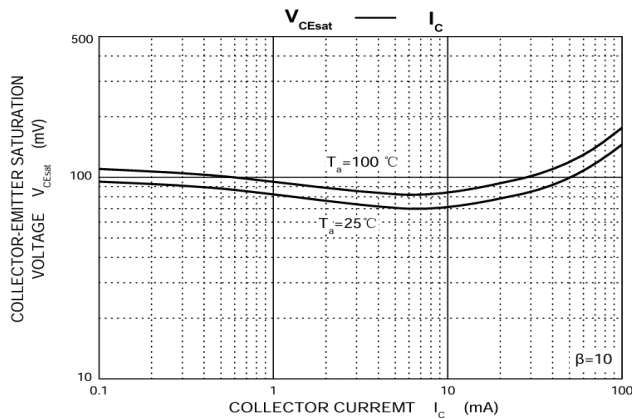
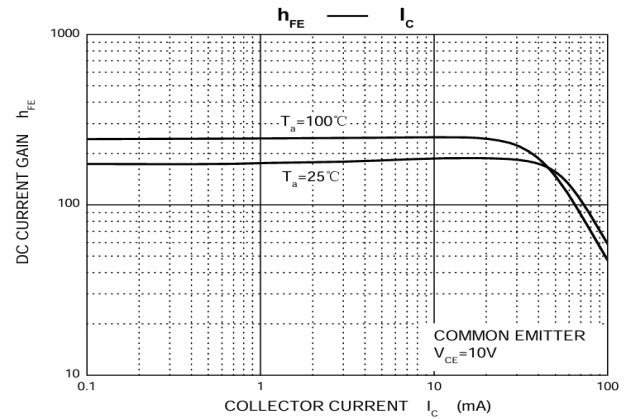
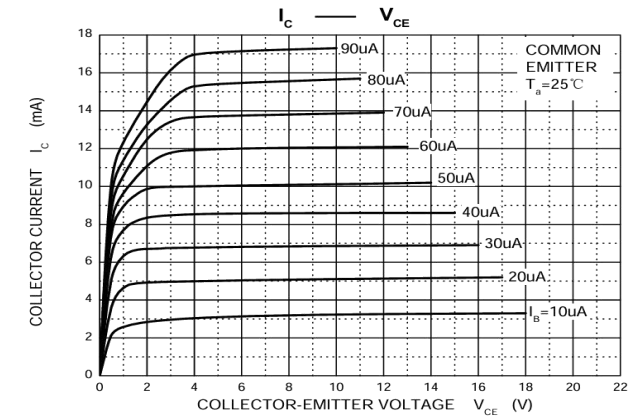
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	300		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	300		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	5		V
Collector cutoff current	I _{CBO}	V _{CB} =200V, I _E =0		0.25	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0		0.1	μA
DC Current Gain	h _{FE1}	V _{CE} =10V, I _C =1mA	60		
	h _{FE2}	V _{CE} =10V, I _C =10mA	100	200	
	h _{FE3}	V _{CE} =10V, I _C =30mA	60		
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =20mA, I _B =2mA		0.2	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =20mA, I _B =2mA		0.9	V
Transition frequency	f _T	V _{CE} =20V, I _C =10mA, f=30MHz	50		MHz



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TYPICAL CHARACTERISTICS



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SOT23 PACKAGE OUTLINE DIMENSIONS

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.9	1.15	0.035	0.045
A1	0	0.1	0	0.004
A2	0.9	1.05	0.035	0.041
b	0.3	0.5	0.012	0.02
c	0.08	0.15	0.003	0.006
D	2.8	3	0.11	0.118
E	1.2	1.4	0.047	0.055
E1	2.25	2.55	0.089	0.1
e	0.950 TYP		0.037 TYP	
e1	1.8	2	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.25	0.45	0.01	0.02
θ	0°	8°	0°	8°

Note:

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

REEL PACKING

Top cover tape thickness
0.10 mm (0.004") max thick

Embossed carrier tape

Trailer Tape
50±2 Empty Pockets

Components

Leader Tape
100±2 Empty Pockets

Dimensions: P0, P1, W, C, A-A, T1, T2, M, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.17	2.77	1.22	Φ1.55	1.75	3.50	4.00	4.00	2.00	8.00
Reel Option	A	B	C	D	E	F	G	T1	T2	Q.TY PER REEL
7" Dia	Φ177.8	Φ54.5	Φ13.5	2.7	12.3	9.6	9.6	0.9	1.1	3000PCS