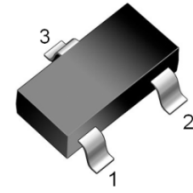


**REPLACEMENT TYPE : MMBTA92**

**FEATURES**

- High Breakdown Voltage
- Complement to HABTA42(NPN)



SOT-23 MARKING:2D

1: BASE 2: EMITTER 3: COLLECTO

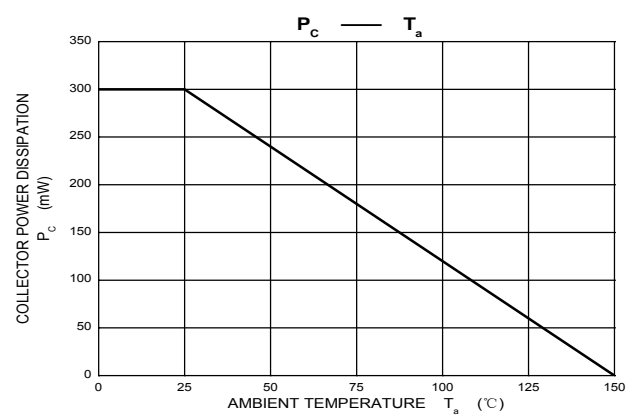
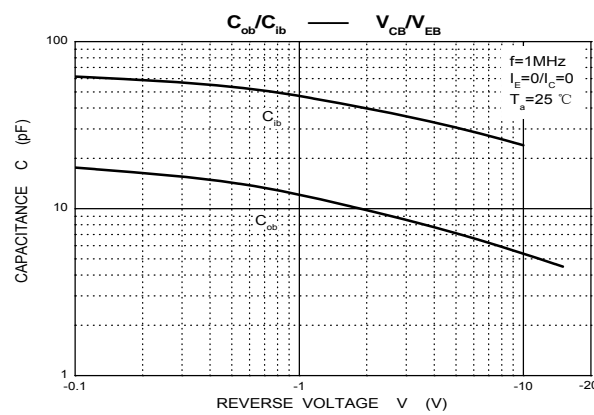
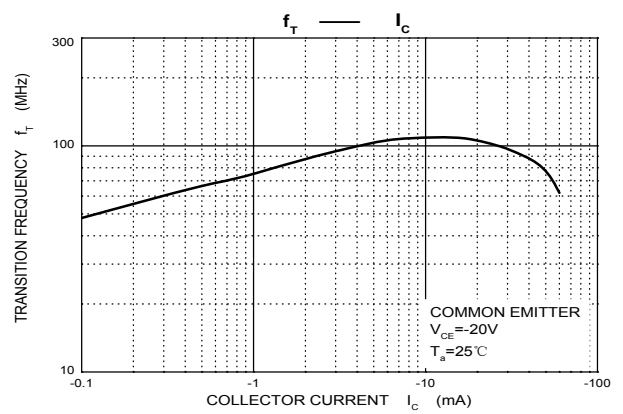
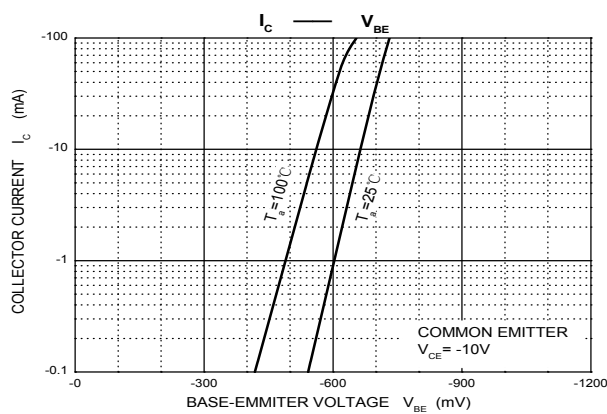
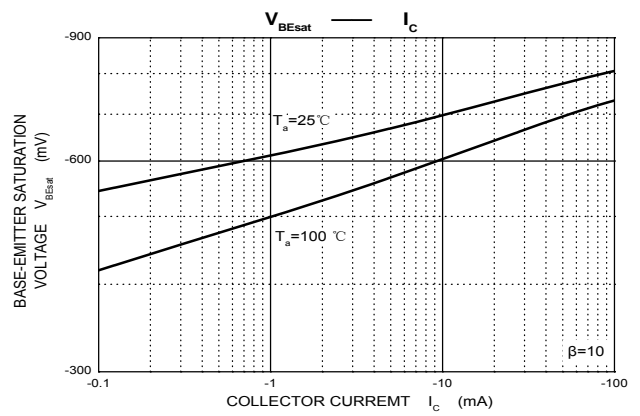
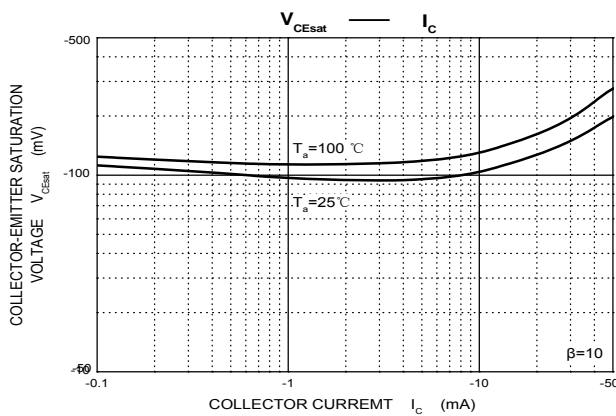
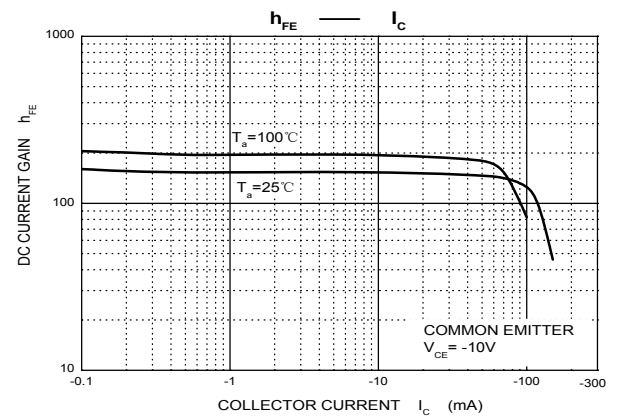
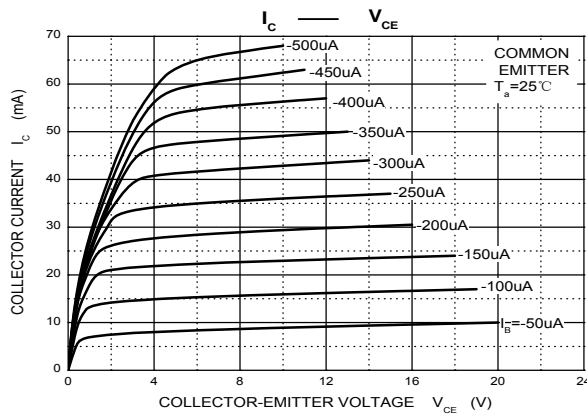
**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	-300	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-300	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current-Continuous	I <sub>C</sub>	-500	mA
Collector Power Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

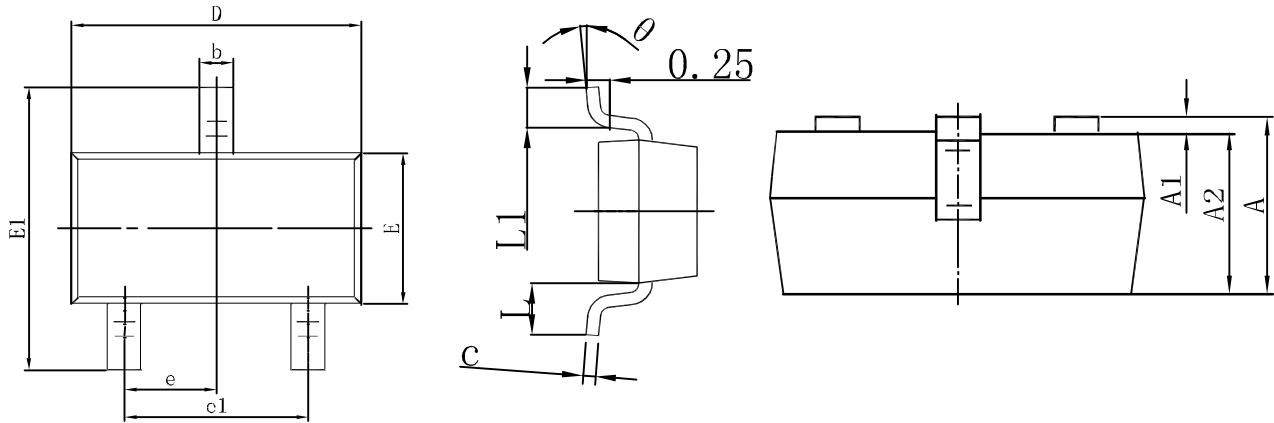
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	V <sub>CBO</sub>	I <sub>C</sub> =-100μA , I <sub>E</sub> =0	-300		V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =-1mA , I <sub>B</sub> =0	-300		V
Emitter-Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =-100μA , I <sub>C</sub> =0	-5		V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-200V , I <sub>E</sub> =0		-0.25	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V , I <sub>C</sub> =0		-0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-10V , I <sub>C</sub> =-1mA	60		
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-10V , I <sub>C</sub> =-10mA	100	200	
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-10V , I <sub>C</sub> =-30mA	60		
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-20mA , I <sub>B</sub> =-2mA		-0.2	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-20mA , I <sub>B</sub> =-2mA		-0.9	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V , I <sub>C</sub> =-10mA f=30MHz	50		MHz

**Typical Characteristics**

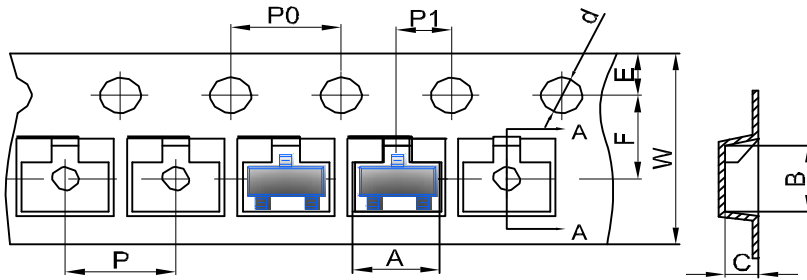


## Typical Characteristics



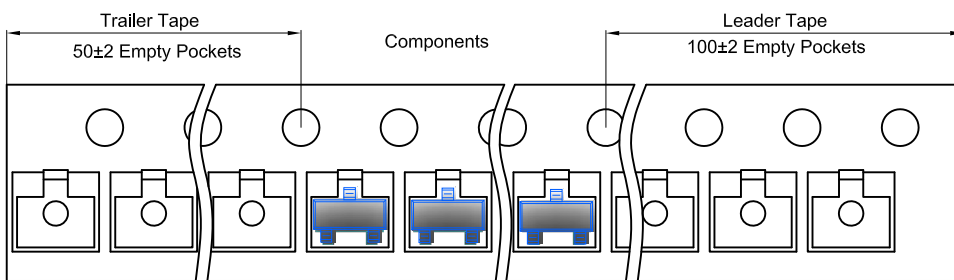
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		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
$\theta$	0°	8°	0°	8°

## SOT-23 Embossed Carrier Tape

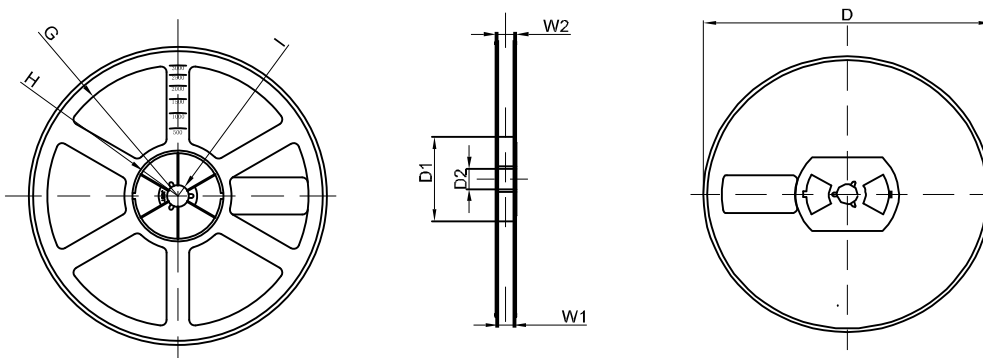


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

## SOT-23 Tape Leader and Traller



## SOT-23 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	φ178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1