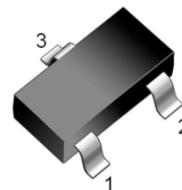


REPLACEMENT TYPE : MMBT2907
FEATURES

- Epitaxial Planar Die Construction
- Complementary NPN Type Available(HABT2222)



SOT-23 MARKING:M2B

1: BASE 2:EMITTER 3: COLLECTOR

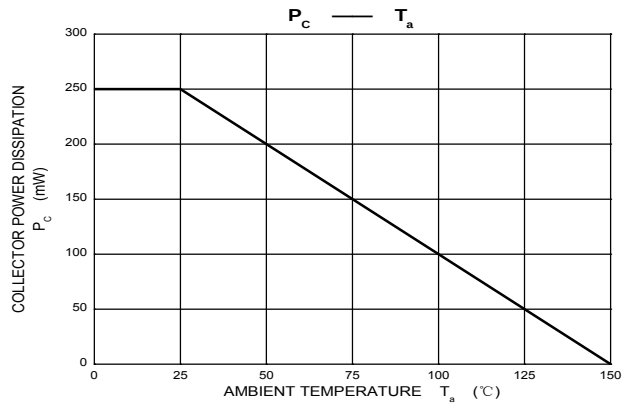
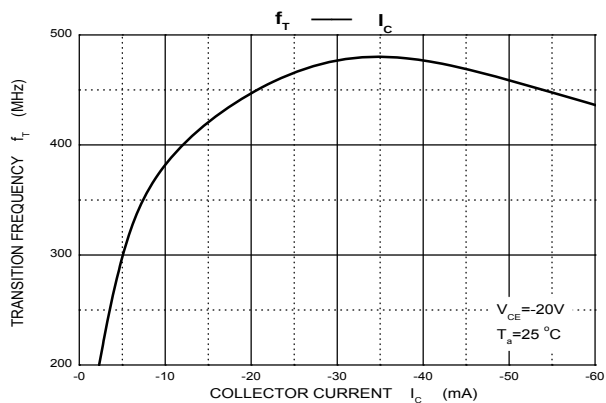
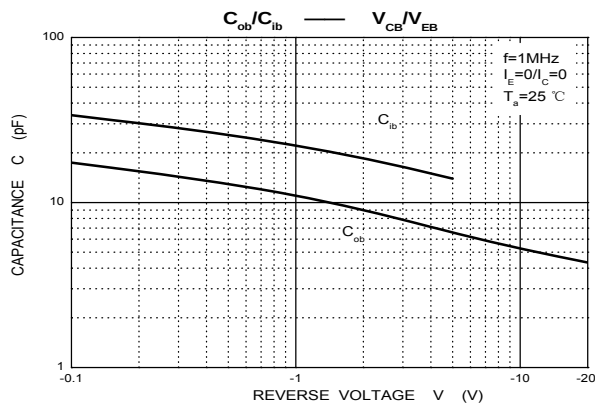
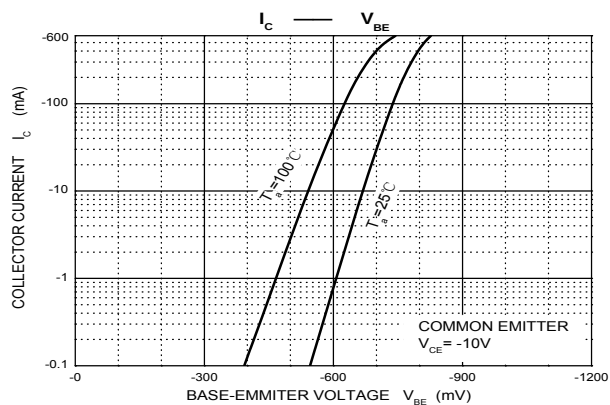
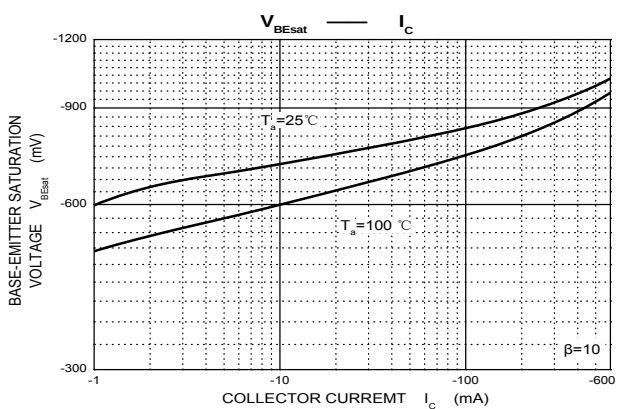
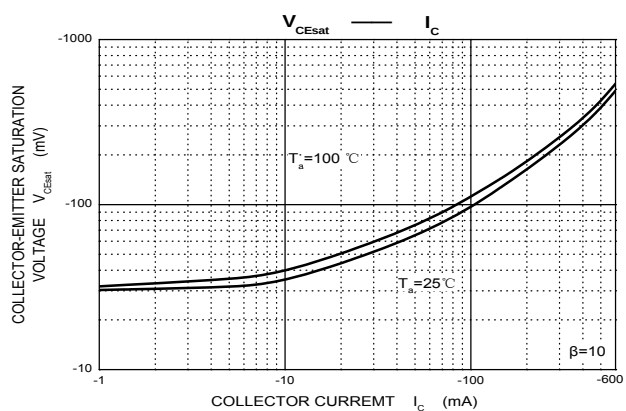
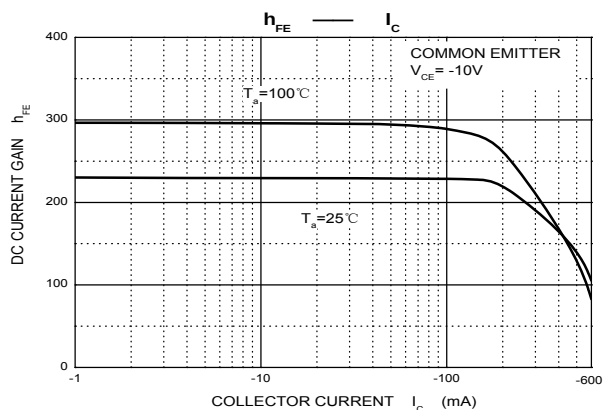
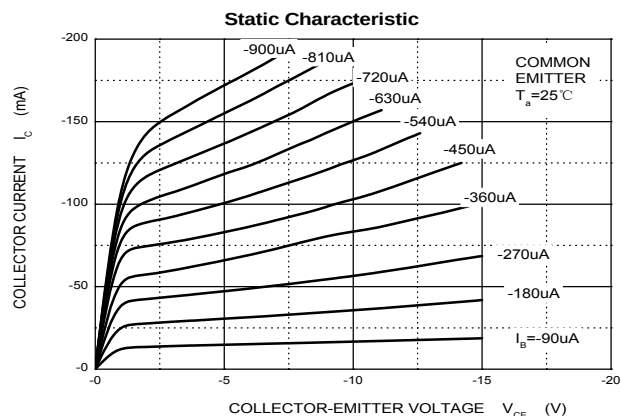
MAXIMUM RATINGS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

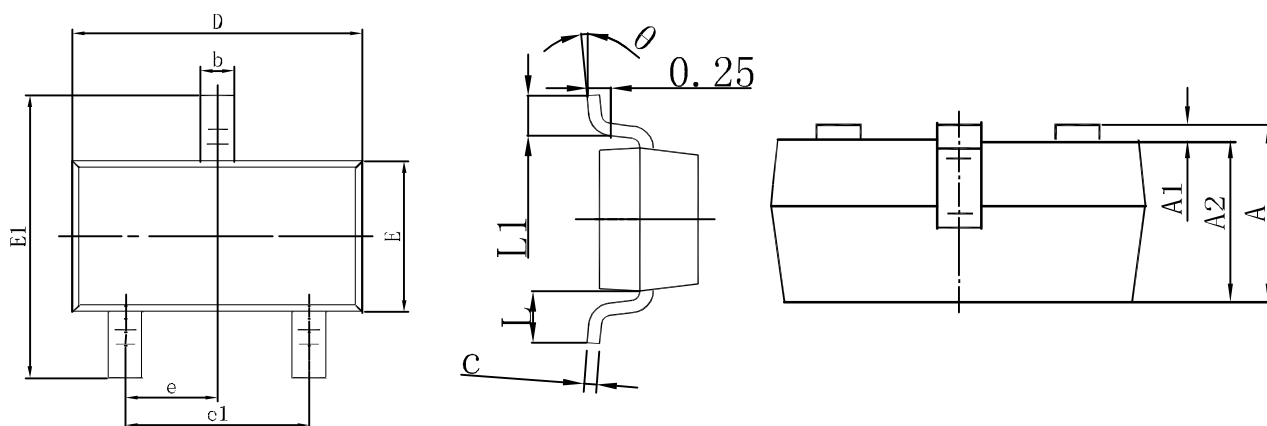
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-600	mA
Total Device Dissipation	P_C	250	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

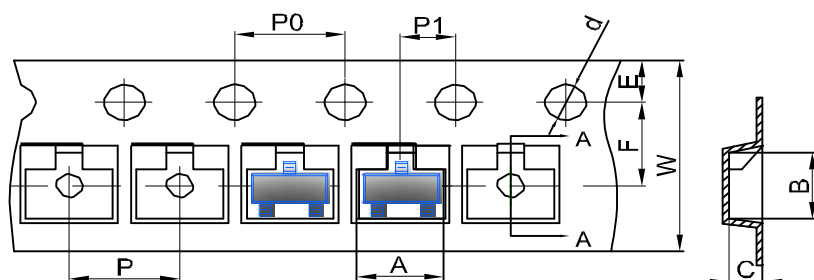
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = -10\mu\text{A}, I_E = 0$	-60			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-40			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = -10\mu\text{A}, I_C = 0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$			-20	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -3\text{V}, I_C = 0$			-10	nA
Collector Cut-off Current	I_{CEX}	$V_{CE} = -30\text{V}, V_{BE}(\text{off}) = -0.5\text{V}$			-50	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -10\text{V}, I_C = -150\text{mA}$	100		300	
	$h_{FE(2)}$	$V_{CE} = -10\text{V}, I_C = -0.1\text{mA}$	52			
	$h_{FE(3)}$	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	32			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-0.4	V
	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.67	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-1	V
	$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.2	V
Transition Frequency	f_T	$V_{CE} = -20\text{V}, I_C = 100\text{mA}, f = 100\text{MHz}$	200			MHz
Delay Time	t_D	$V_{CE} = -30\text{V}, I_C = -150\text{mA}$			10	nS
Rise Time	t_R	$B_1 = -15\text{mA}$			25	nS
Storage Time	t_S	$V_{CE} = -6\text{V}, I_C = -150\text{mA}$			225	nS
Fall Time	t_F	$I_{B1} = -I_{B2} = -15\text{mA}$			60	nS

Typical Characteristics

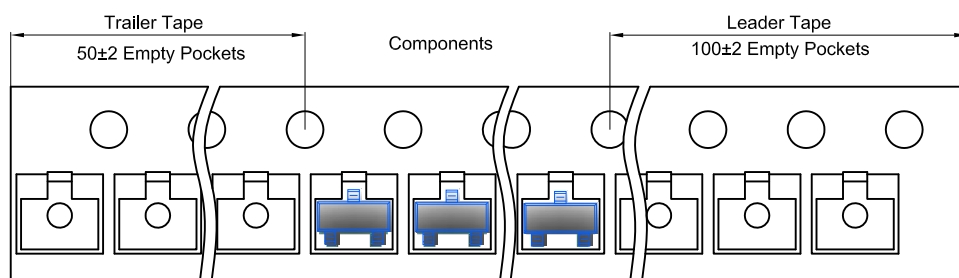
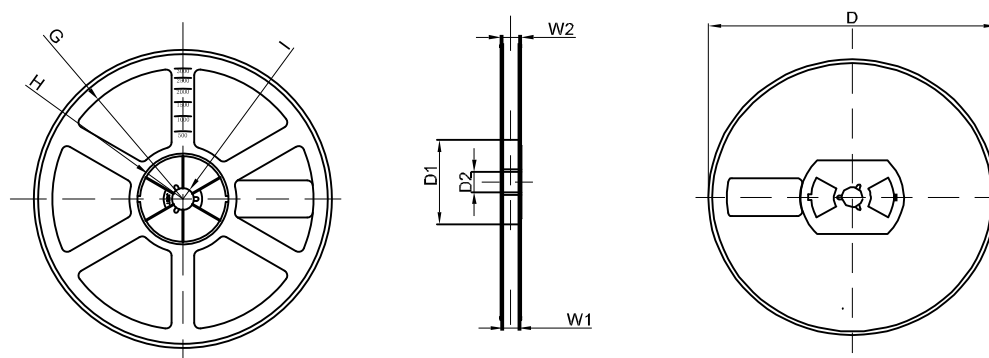


SOT-23 Package Outline Dimensions


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 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