

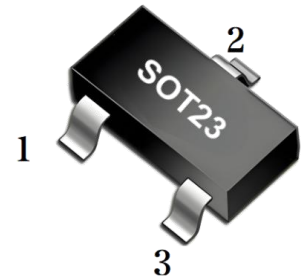


MMBT1015

PNP SILICON TRANSISTOR

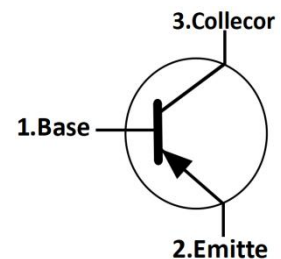
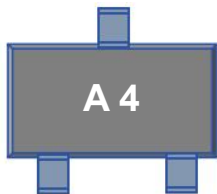
FEATURES

- *Collector-Emitter Voltage: $V_{CE0} = -50V$.
- *Collector Current up to 150mA.
- *High h_{FE} Linearity.
- *Complimentary to MMBT1815.



MARKING

Type Code: Marking: A4



ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ C$, unless otherwise specified)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-base voltage	-50	V
V_{CEO}	Collector-emitter voltage	-50	V
V_{EBO}	Emitter-base voltage	-5	V
I_C	Collector current	-150	mA
P_C	Collector Power Dissipation	200	mW
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-60~150	$^\circ C$
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^\circ C/W$

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 ($T_c = 25^\circ C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1mA, I_B = 0$	-50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5		V
Collector cutoff current	I_{CBO}	$V_{CB} = -50V, I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -50V, I_B = 0$		-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$		-0.1	μA
DC Current Gain (CLASSIFICATION OF h_{FE})	h_{FE}	$V_{CE} = -6V, I_C = -2mA$	A	120	240
			B	200	400

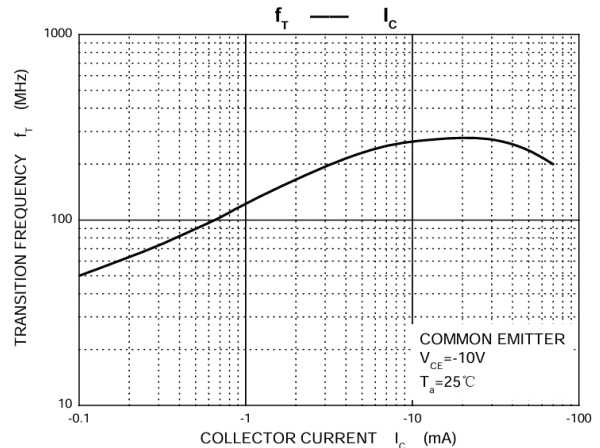
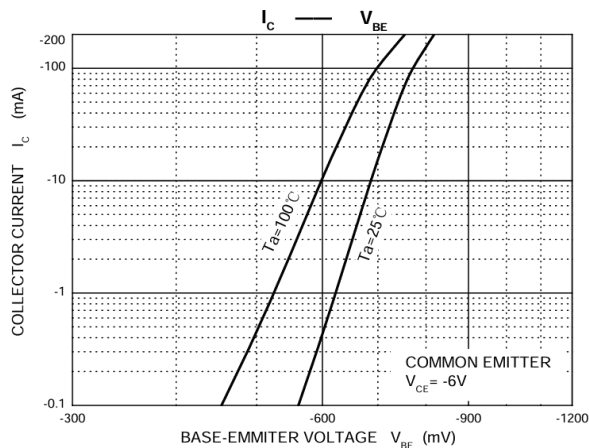
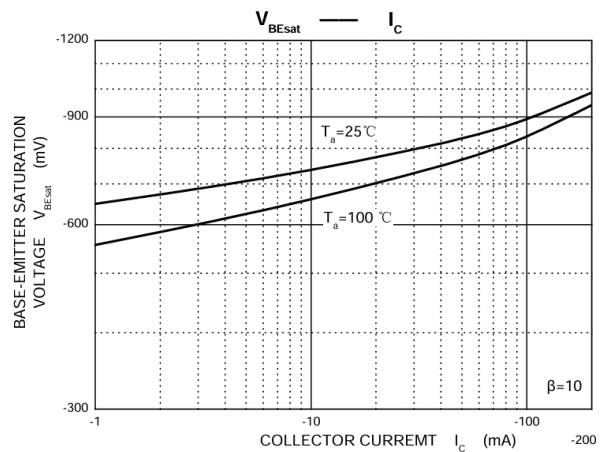
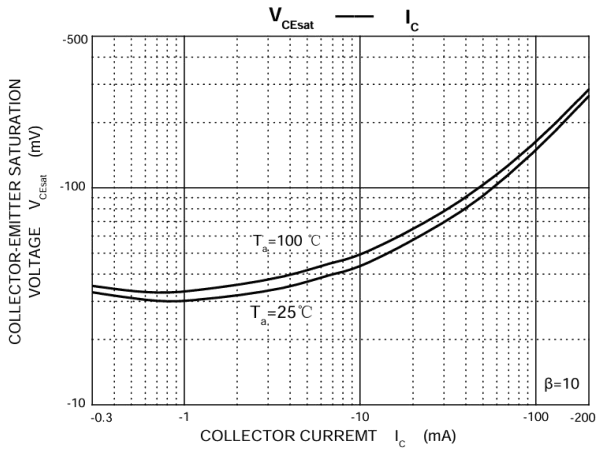
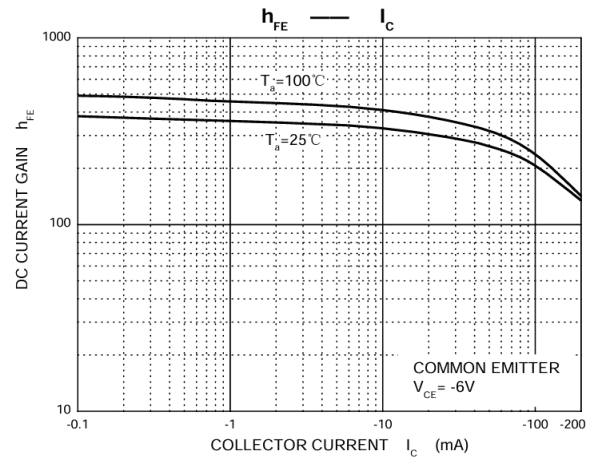
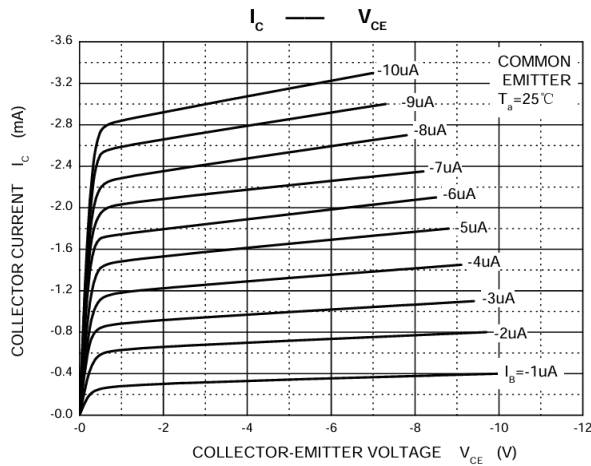


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PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$		-0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$		-1.1	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -1\text{mA}, f = 30\text{MHz}$	80		MHz

TYPICAL CHARACTERISTICS

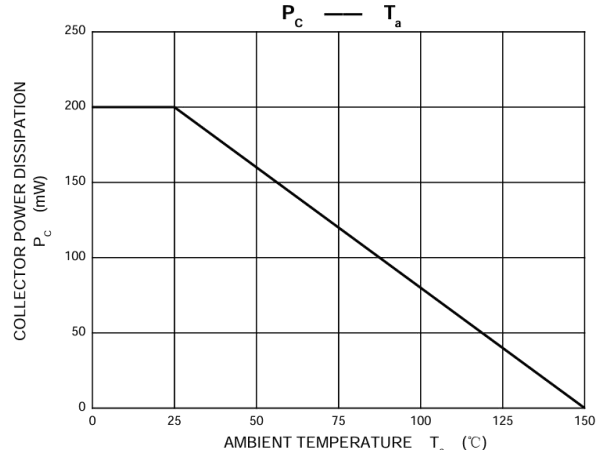
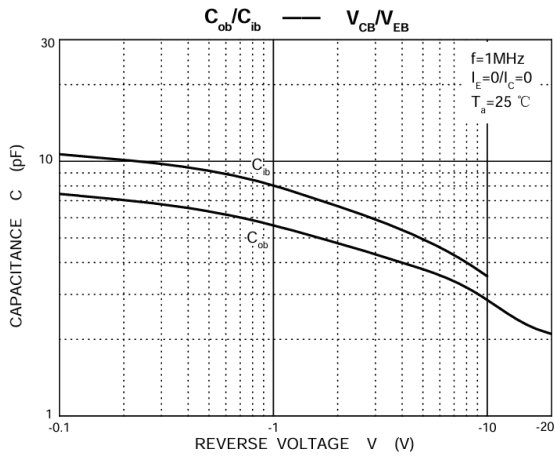




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■ TYPICAL CHARACTERISTICS(Con.t)





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PNP SILICON TRANSISTOR

SOT23 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°

Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

REEL PACKING

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

Embossed carrier tape

Trailer Tape 50±2 Empty Pockets

Components

Leader Tape 100±2 Empty Pockets

Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	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
Reel Optiom	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13"Dia	φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	