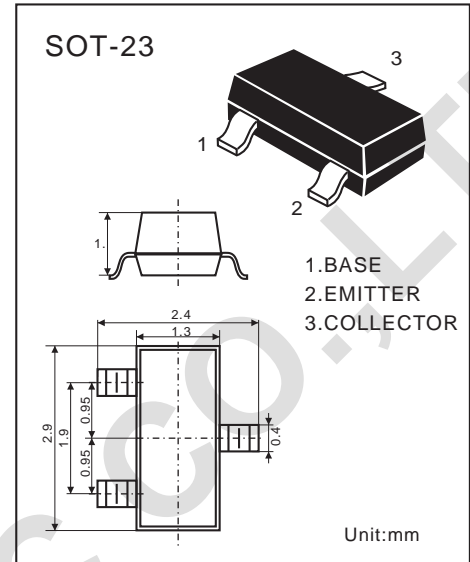


PNP EPITAXIAL SILICON TRANSISTOR

LOW FREQUENCY, LOW NOISE AMPLIFIER

- Complements MMPT9014LT1
- Collector-current: $I_C = -100\text{mA}$
- Collector-Emitter Voltage: $V_{CE} = -45\text{V}$



ABSOLUTE MAXIMUM RATINGS

($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Collector Dissipation $T_a = 25^\circ\text{C}^*$	P_D	225	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

Electrical Characteristics

($T_a = 25^\circ\text{C}$)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Collector-Base Breakdown Voltage	BV_{CBO}	-50			V	$I_C = -100\mu\text{A}$ $I_E = 0$
Collector-Emitter Breakdown Voltage#	BV_{CEO}	-45			V	$I_C = -1\text{mA}$ $I_B = 0$
Emitter-Base Breakdown Voltage	BV_{EBO}	-5			V	$I_E = -100\mu\text{A}$ $I_C = 0$
Collector-Base Cutoff Current	I_{CBO}			-50	nA	$V_{CB} = -50\text{V}$, $V_C = 0$
Emitter-Base Cutoff Current	I_{EBO}			-50	nA	$V_{CB} = -5\text{V}$, $I_C = 0$
DC Current Gain	H_{FE}	60	200	600		$V_{CE} = -5\text{V}$, $I_C = 1\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.20	-0.7	V	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.82	-1.0	V	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$
Base-Emitter on Voltage	$V_{BE(on)}$	-0.6	-0.67	-0.75	V	$V_{CE} = -5\text{V}$, $I_C = -2\text{mA}$
Output Capacitance	C_{ob}		4.5	7	PF	$V_{CB} = -10\text{V}$, $I_E = 0$ $f = 1\text{MHz}$
Current Gain-Bandwidth Product	f_T	100	190		MHz	$V_{CE} = -5\text{V}$ $I_C = -10\text{mA}$
Noise Figure	NF		0.7	10	dB	$V_{CE} = -5\text{V}$ $I_C = -0.2\text{mA}$
						$f = 1\text{MHz}$ $R_s = 1\text{Kohm}$

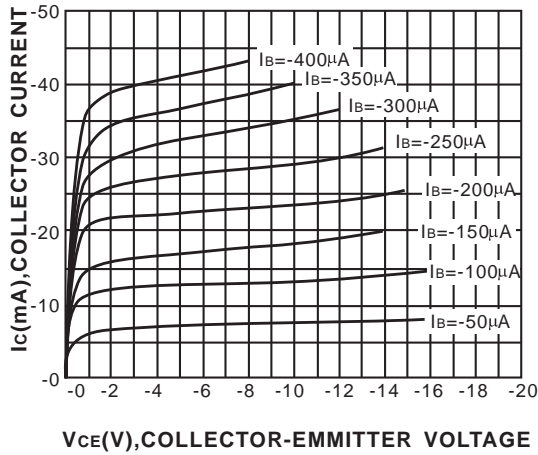
*Total Device Dissipation: $FR = 1 \times 0.75 \times 0.062$ in Board Derate 25°C

#Pulse Test: Pulse Width 300 μs Duty cycle 2%

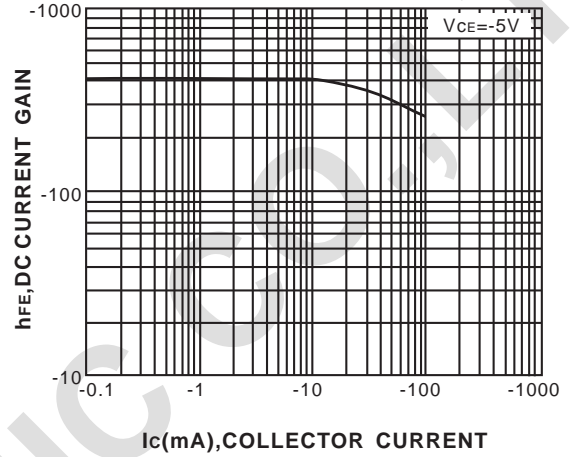
DEVICE MARKING:

MMBT9015LT1=M6

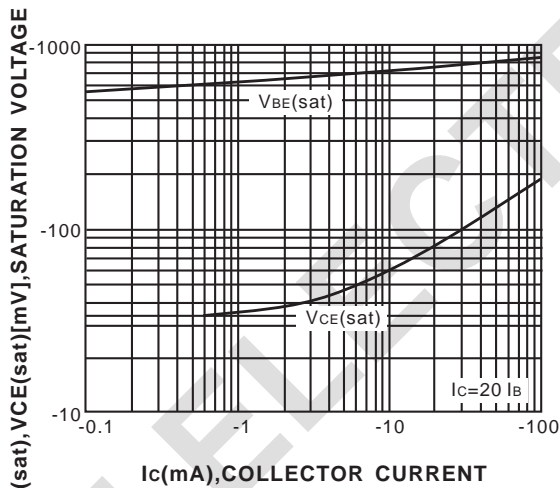
Typical Characteristics



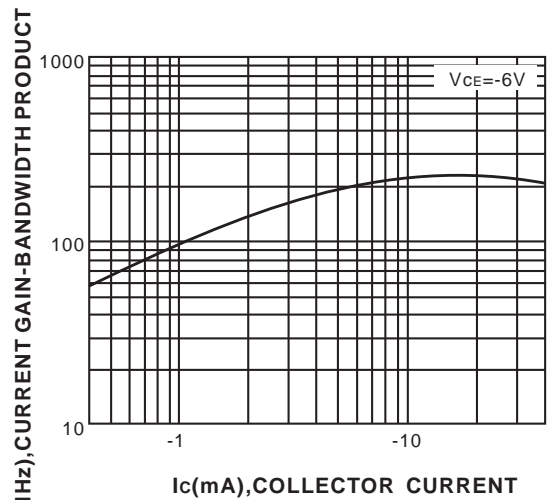
Static Characteristic



DC Current Gain



**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



Current Gain Bandwidth Product