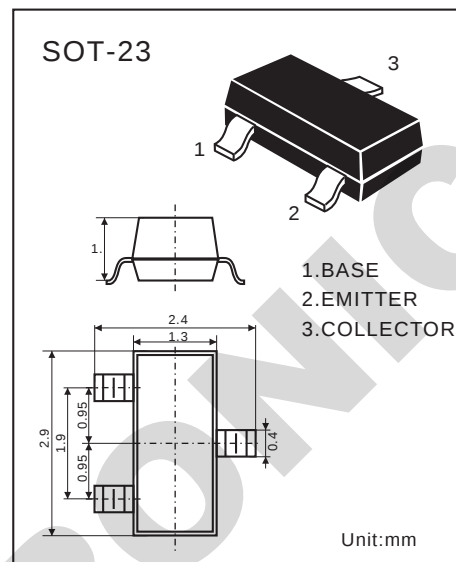


NPN EPITAXIAL SILICON TRANSISTOR

PRF-AMPLIFIER, LOW LEVEL & LOW NOISE

- Complements to MMPT9015LT1
- Collector-current: $I_C = 100\text{mA}$
- Collector-Emitter Voltage: $V_{CE} = 45\text{V}$
- High Total Power Dissipation $P_C = 225\text{mW}$
- High life And Good Linearity



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	300	1000		$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.3	V	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.00	V	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$
Base-Emitter on Voltage	$V_{BE(on)}$	0.58	0.63	6.7	V	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$
Output Capacitance	C_{ob}		2.2	3.5	PF	$V_{CB} = 10\text{V}$, $I_E = 10\text{mA}$, $f = 100\text{MHz}$
Current Gain-Bandwidth Product	f_T	150	270		MHz	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$
Noise Figure	NF			10	dB	$V_{CE} = 5\text{V}$, $I_C = 0.2\text{mA}$
						$f = 1\text{MHz}$, $R_s = 2\text{Kohm}$

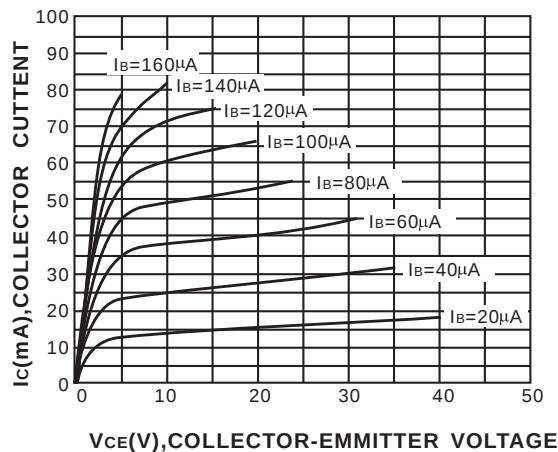
*Total Device Dissipation: $FR = 1 \times 0.75 \times 0.062$ in Board Derate 25°C

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

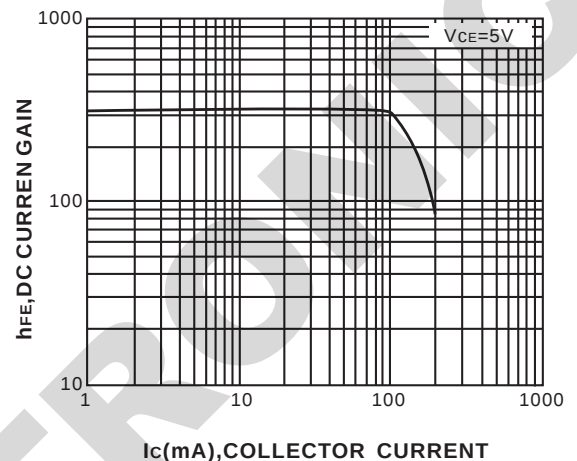
DEVICE MARKING:

MMBT9014LT1=L6

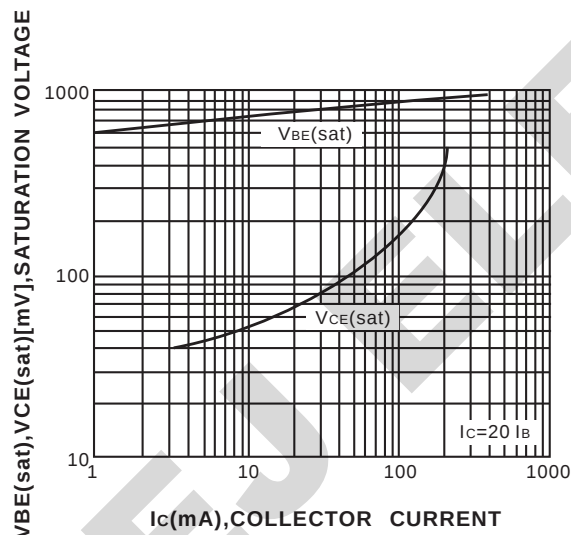
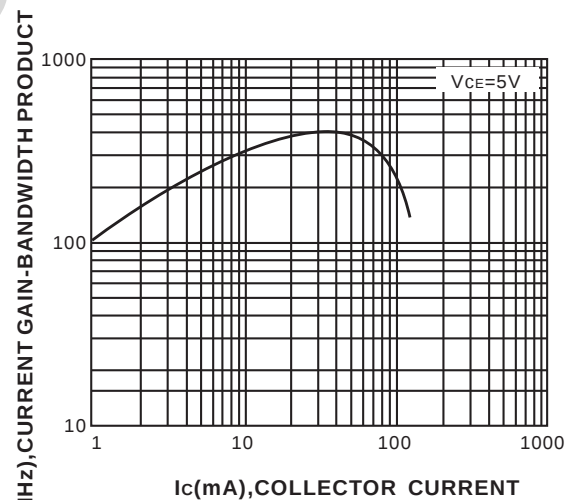
Typical Characteristics



Static Characteristic



DC Current Gain

Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Current Gain Bandwidth Product