WEJ®

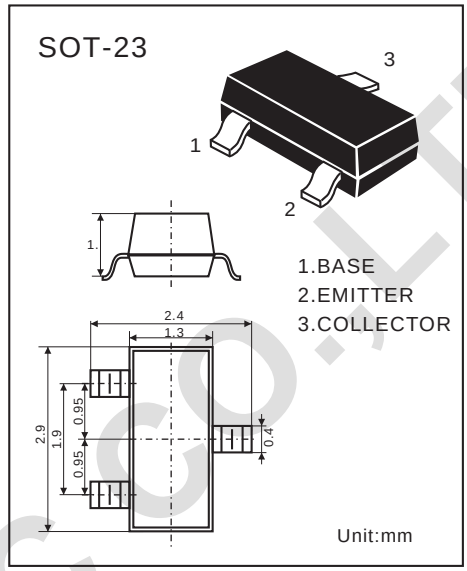
RoHS

MMBT9013LT1

NPN EPITAXIAL SILICON TRANSISTOR

1W OUTPUT AMPLIFIER OF PORTABLE RADIOS IN CLASS B PUSH-PULL OPERATION

Complement to 9012
Collector Current :Ic=500mA
High Total Power Dissipation Pc=225mW



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

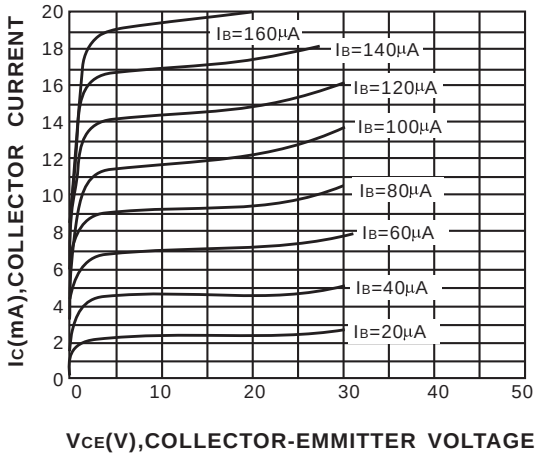
Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	Ic	500	mA
Collector Dissipation Ta=25°C*	P_D	225	mW
Junction Temperature	T_j	150	°C
Storage Temperature	Tstg	-55~150	°C

Electrical Characteristics (Ta=25°C)

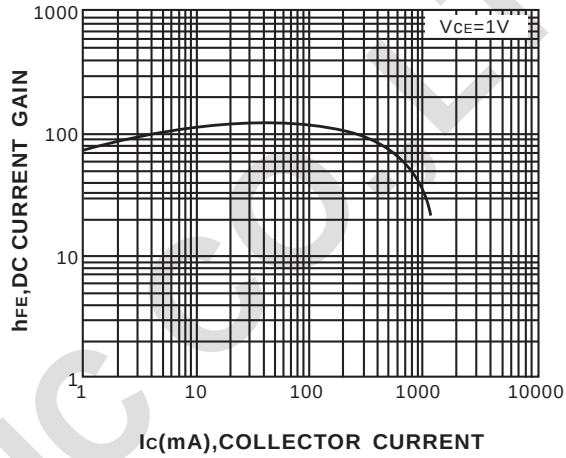
Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Collector-Base Breakdown Voltage	BV_{CBO}	40			V	I_C=100μA I_E=0
Collector-Emitter Breakdown Voltage#	BV_{CEO}	20			V	I_C=1mA I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	5			V	I_E=100μA I_C=0
Collector-Base Cutoff Current	I_{CBO}			100	nA	V_{CB}=25V, V_C=0
Emitter-Base Cutoff Current	I_{EBO}			100	nA	V_{CB}=3V, I_C=0
DC Current Gain	H_{FE1}	64	120	300		V_{CE}=1V, I_C=50mA
DC Current Gain	H_{FE2}	30				V_{CE}=1V, I_C=500mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.18	0.6	V	I_C=500mA, I_B=50mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.95	1.2	V	I_C=500mA, I_B=50mA
Base-Emitter On Voltage	$V_{BE(on)}$	0.6	0.67	0.7	V	V_{ce}=1V, I_C=10mA

*Total Device Dissipation:FR=1X0.75X0.062 in Board Derate 25°C
#Pulse Test: Pulse Width≤300uS Duty cycle ≤2%
DEVICE MARKING:
9013=K6

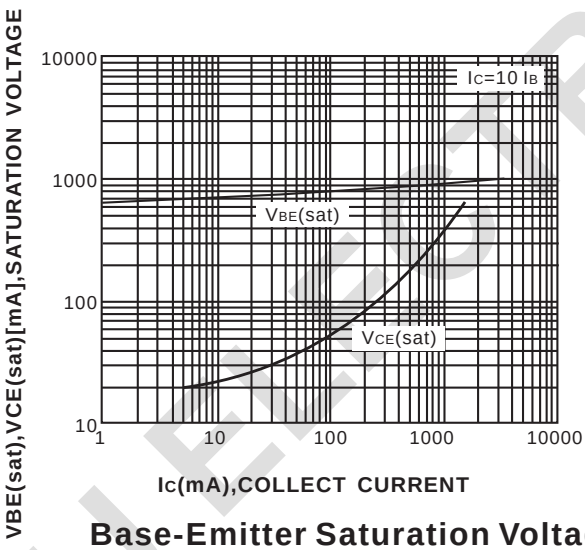
Typical Characteristics



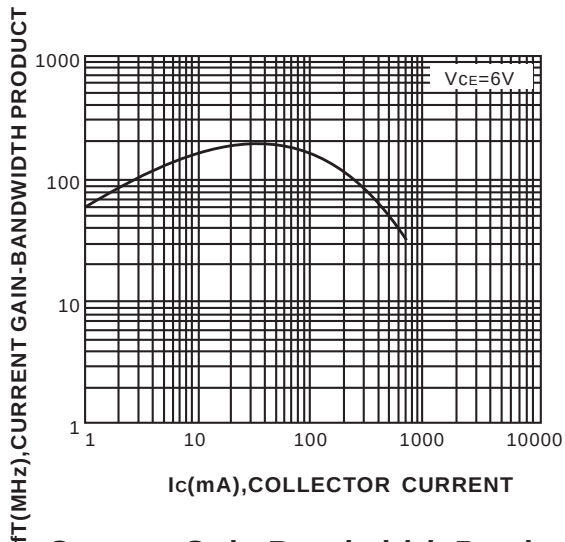
Static Characteristic



DC Current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Satruation Voltage



Current Gain Bandwidth Product