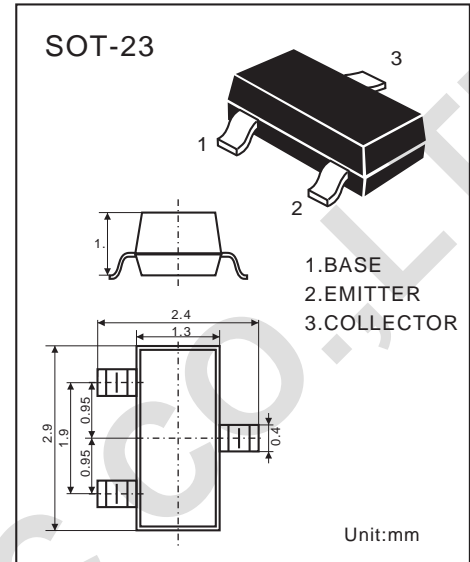


NPN EPITAXIAL SILICON TRANSISTOR

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

Complement to 9012
Collector Current : $I_C=500\text{mA}$
High Total Power Dissipation $P_C=225\text{mW}$



ABSOLUTE MAXIMUM RATINGS

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CE0}	20	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	500	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_{CB0}	40			V	$I_C=100\mu\text{A}$ $I_E=0$
Collector-Emitter Breakdown Voltage#	BV_{CE0}	20			V	$I_C=1\text{mA}$ $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	5			V	$I_E=100\mu\text{A}$ $I_C=0$
Collector-Base Cutoff Current	I_{CB0}			100	nA	$V_{CB}=25\text{V}$, $V_C=0$
Emitter-Base Cutoff Current	I_{EB0}			100	nA	$V_{CB}=3\text{V}$, $I_C=0$
DC Current Gain	H_{FE1}	64	120	300		$V_{CE}=1\text{V}$, $I_C=50\text{mA}$
DC Current Gain	H_{FE2}	30				$V_{CE}=1\text{V}$, $I_C=500\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.18	0.6	V	$I_C=500\text{mA}$, $I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.95	1.2	V	$I_C=500\text{mA}$, $I_B=50\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)}$	0.6	0.67	0.7	V	$V_{ce}=1\text{V}$, $I_C=10\text{mA}$

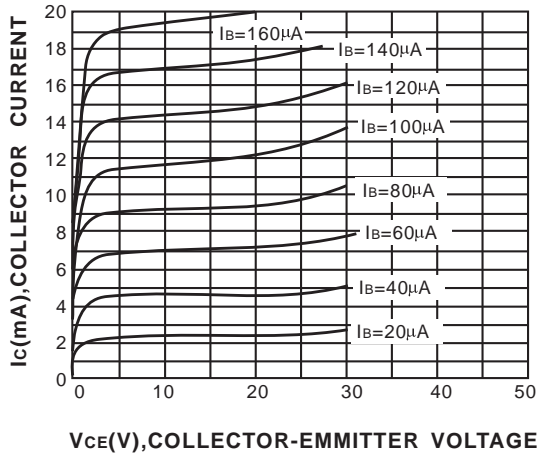
*Total Device Dissipation:FR=1X0.75X0.062 in Board Derate 25°C

#Pulse Test: Pulse Width $\leq 300\mu\text{S}$ Duty cycle $\leq 2\%$

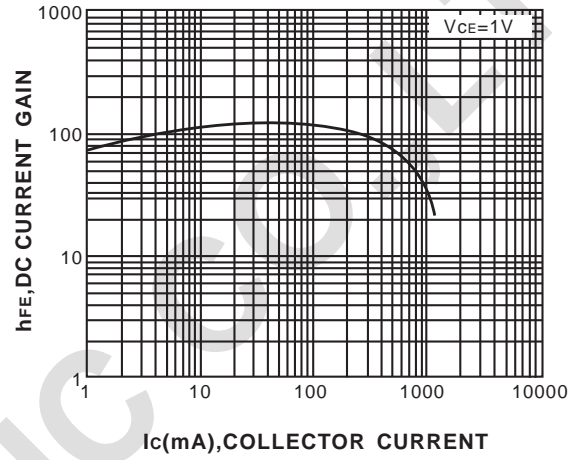
DEVICE MARKING:

9013=K6

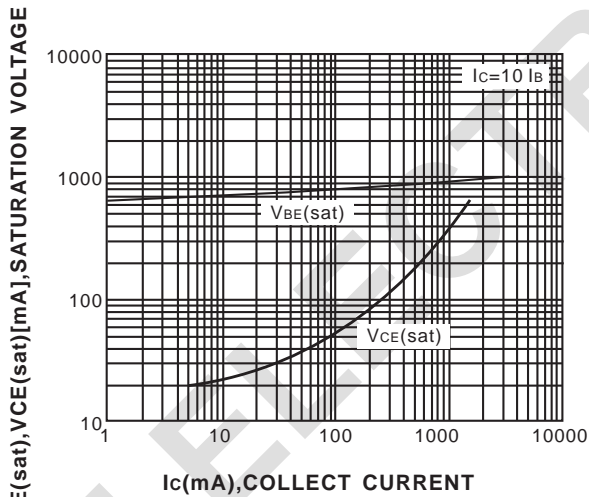
Typical Characteristics



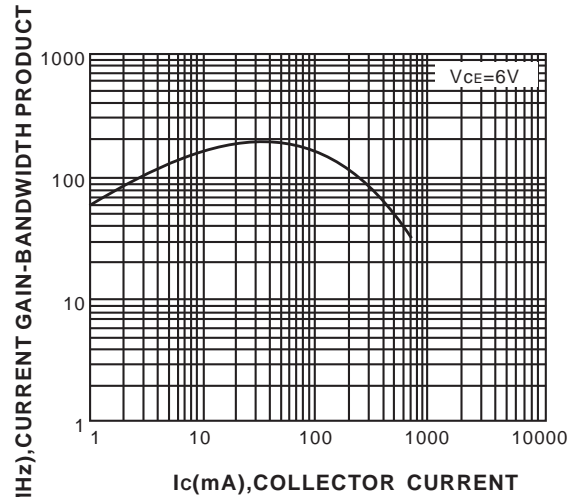
Static Characteristic



DC Current Gain



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



Current Gain Bandwidth Product