

DESCRIPTION

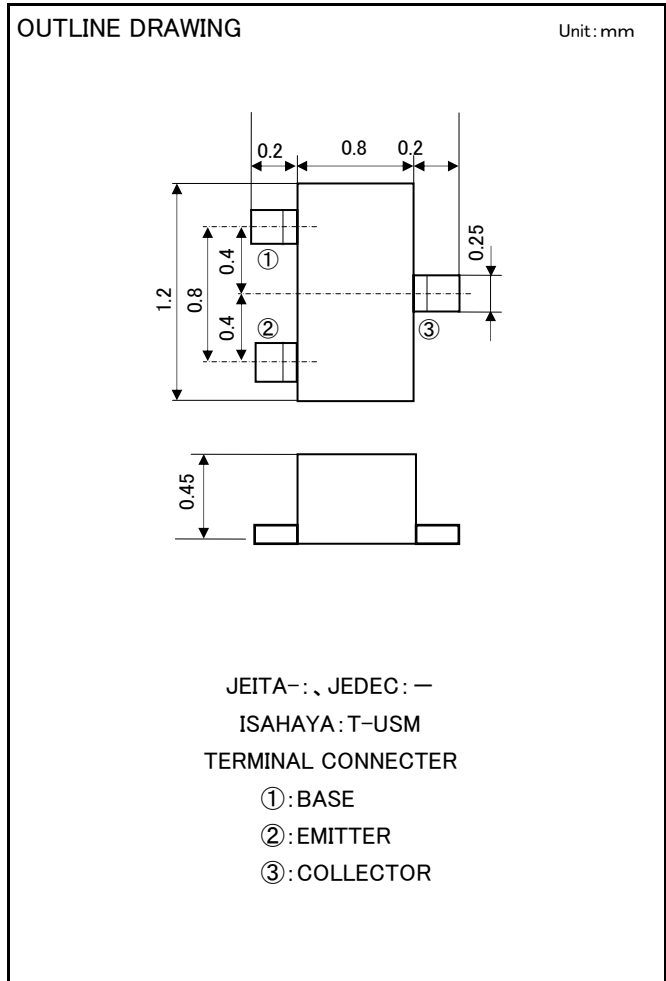
2SC5804 is a super mini package resin sealed silicon NPN epitaxial transistor, It is designed for low frequency application. Since it is a super-thin flat lead type package, a high-density mounting are possible. Complementary with 2SC3052.

FEATURE

- Super-thin flat lead type package. $t=0.45\text{mm}$
- Excellent linearity of DC forward current gain.
- Low collector to emitter saturation voltage
 $V_{CE(sat)}=0.3\text{V max (@}I_C=100\text{mA}/I_B=10\text{mA)}$

APPLICATION

For hybrid IC, small type machine low frequency voltage amplify application.



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

Symbol	Parameter	Ratings	Unit
V_{CBO}	Collector to Base voltage	50	V
V_{CEO}	Collector to Emitter voltage	6	V
V_{EBO}	Emitter to Base voltage	50	V
I_o	Collector current	200	mA
P_c	Collector dissipation	100	mW
T_j	Junction temperature	+125	$^\circ\text{C}$
T_{stg}	Storage temperature	-55~+125	$^\circ\text{C}$

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

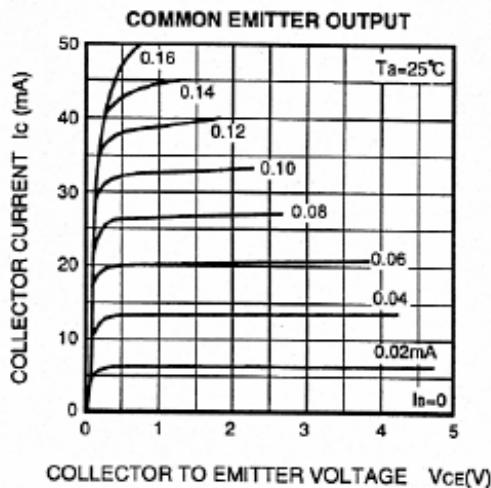
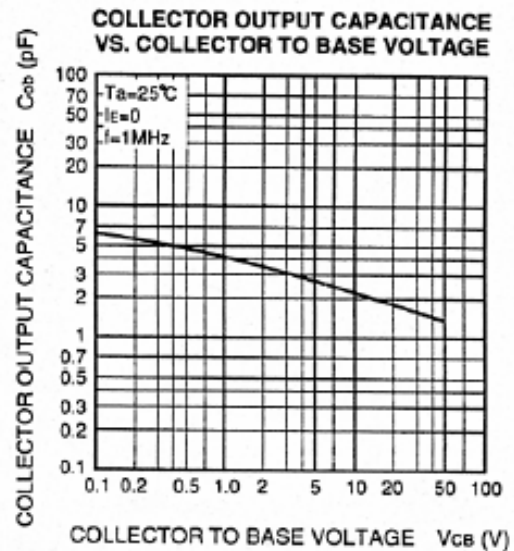
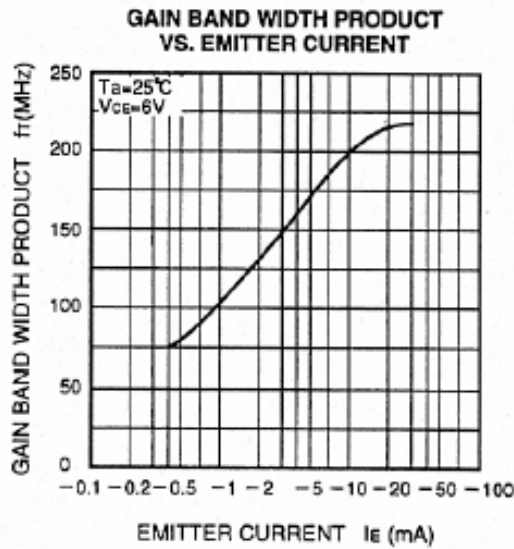
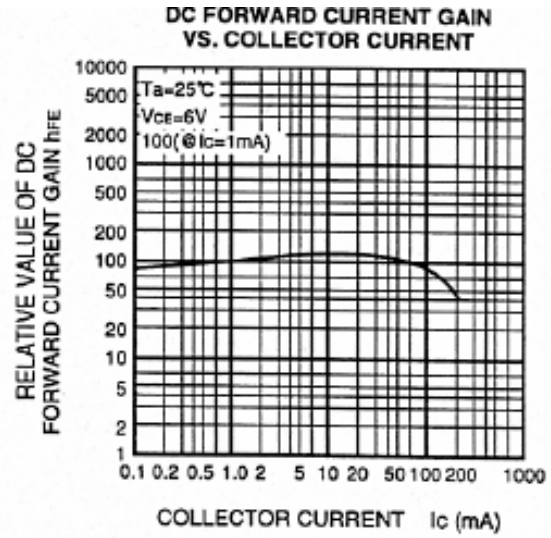
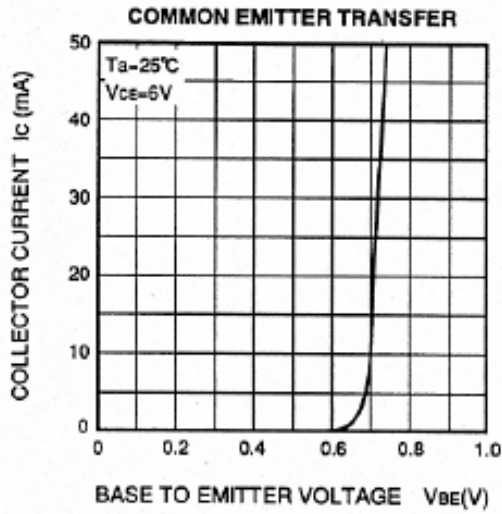
Parameter	Symbol	Test conditions	Limits			Unit
			Min	Typ	Max	
Collector to Emitter Breakdown voltage	$V(BR)_{CEO}$	$I_C=100\mu\text{A}, R_{BE}=\infty$	50	—	—	V
Collector cut off current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0\text{mA}$	-	-	0.1	μA
Emitter cut off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0\text{mA}$	-	-	0.1	μA
DC forward current gain	hFE	$V_{CE}=6\text{V}, I_C=1\text{mA}$	150	※	800	-
DC forward current gain	hFE	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$	90	-	-	-
C to E saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$	-	-	0.3	v
Gain bandwidth product	fT	$V_{CE}=6\text{V}, I_E=-10\text{mA}$	-	200	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=6\text{V}, I_E=0\text{mA}, f=1\text{MHz}$	-	2.5	-	pF
Noise figure	NF	$V_{CE}=6\text{V}, I_E=-0.1\text{mA}, f=1\text{kHz}, R_G=2\text{k}\Omega$	-	-	15	dB

※ It shows hFE classification in below table.

Item	E	F	G
hFE	150~300	250~500	400~800
Abbrivation	LE	LF	LG

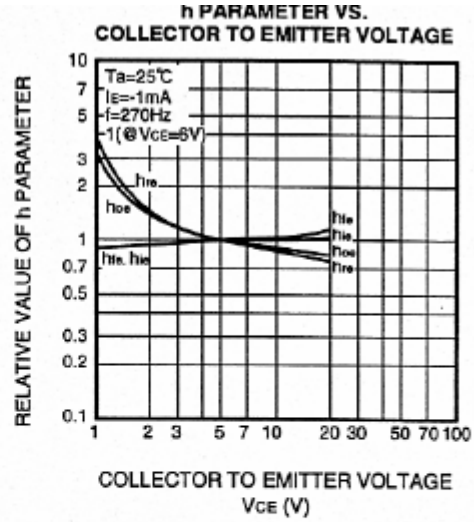
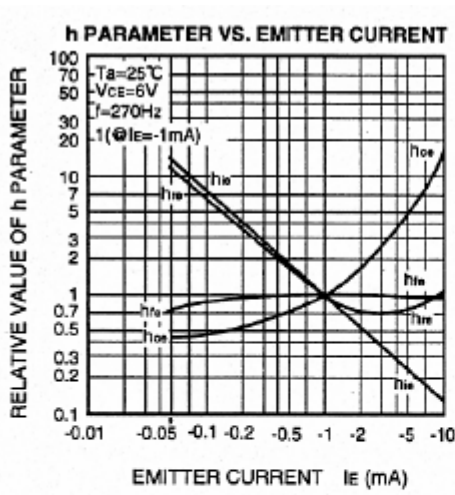
2SC5804

FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON NPN EPITAXIAL TYPE



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COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
h_{ie}	Closed loop small signal input impedance	$T_a=25^\circ\text{C}$ $V_{CE}=6\text{V}$ $I_e=1\text{mA}$ $f=270\text{Hz}$	8.5	$\text{k}\Omega$
h_{re}	Open loop small signal reverse voltage amplification factor		0.1	$\times 10^{-3}$
h_{fe}	Closed loop small signal forward current amplification factor		300	—
h_{oe}	Open loop small signal output admittance		5.5	μS



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