

# Small signal low frequency amplifier (50V, 100mA)

## 2SC6114

### ●Applications

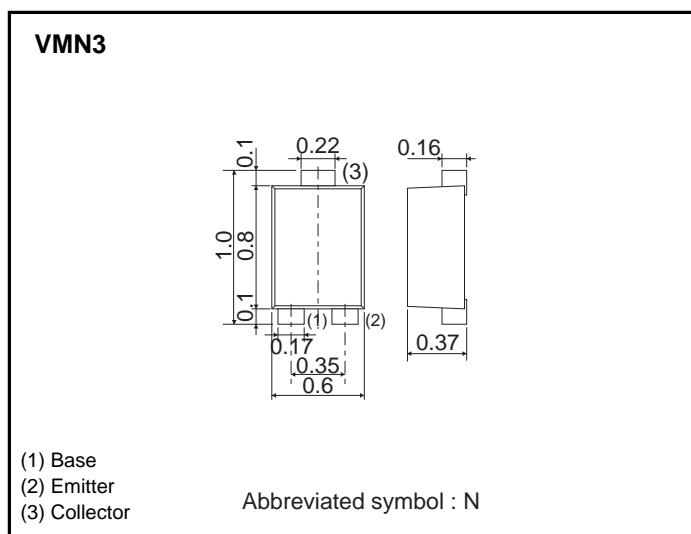
Small signal low frequency amplifier

### ●Features

- 1) Low Cob.  
Cob=2.0pF (Typ.)
- 2) Complements the 2SA2199.

### ●Structure

NPN silicon epitaxial  
planar transistor



### ●Dimensions (Unit : mm)

### ●Absolute maximum (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CBO</sub>	50	V
Collector-emitter voltage	V <sub>CEO</sub>	50	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	100	mA
	I <sub>CP</sub> *1	200	
Power dissipation	P <sub>D</sub> *2	150	mW
Junction temperature	T <sub>J</sub>	150	°C
Range of storage temperature	T <sub>stg</sub>	-55 to +150	°C

\*1 Pw=1ms Single pulse

\*2 Each terminal mounted on a recommended land

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	$BV_{CEO}$	50	-	-	V	$I_C=1mA$
Collector-base breakdown voltage	$BV_{CBO}$	50	-	-	V	$I_C=50\mu A$
Emitter-base breakdown voltage	$BV_{EBO}$	5	-	-	V	$I_E=50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	0.1	$\mu A$	$V_{CB}=50V$
Emitter cutoff current	$I_{EBO}$	-	-	0.1	$\mu A$	$V_{EB}=5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.3	V	$I_C/I_B=25mA/2.5mA$
DC current gain	$h_{FE}$	120	-	390	-	$V_{CE}=6V, I_C=2mA$
Transition frequency	$f_r$	-	130	-	MHz	$V_{CE}=10V, I_E=-1mA, f=100MHz$
Output capacitance	$C_{ob}$	-	1.0	-	pF	$V_{CE}=10V, I_E=0A, f=1MHz$

$h_{FE}$  RANK

Rank	Q	R
$h_{FE}$	120 to 270	180 to 390

●Electrical characteristic curves

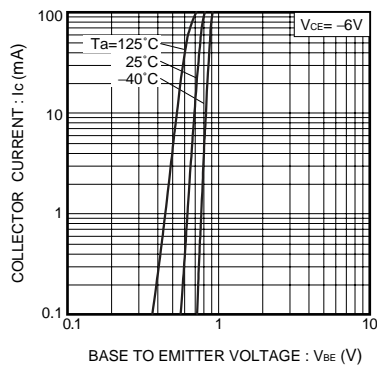


Fig.1 Grounded emitter propagation characteristics

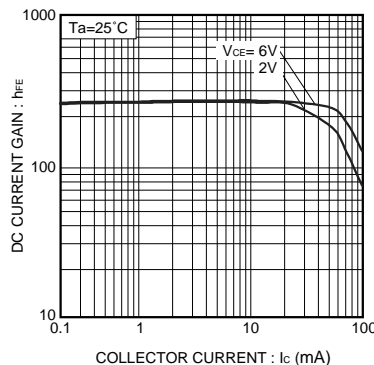


Fig.2 DC current gain vs. collector current (I)

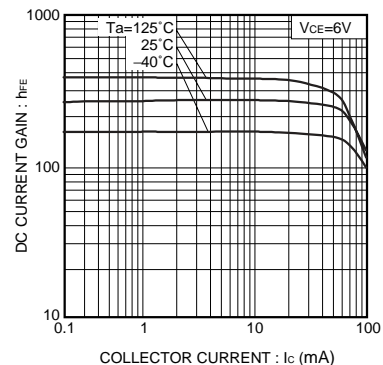


Fig.3 DC current gain vs. collector current (II)

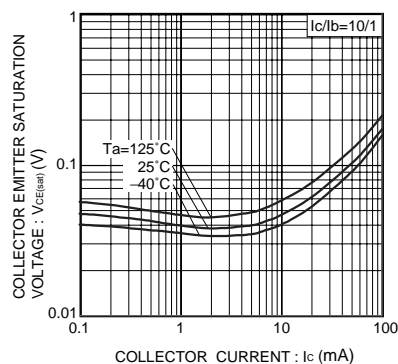


Fig.4 Collector-emitter saturation voltage vs. collector current

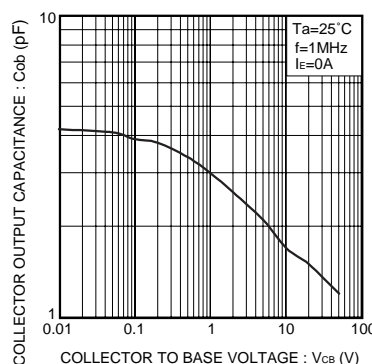


Fig.5 Collector output capacitance

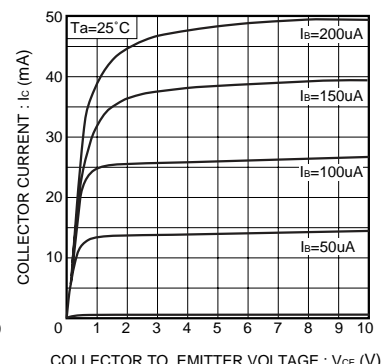


Fig.6 Typical output characteristics

Transistors

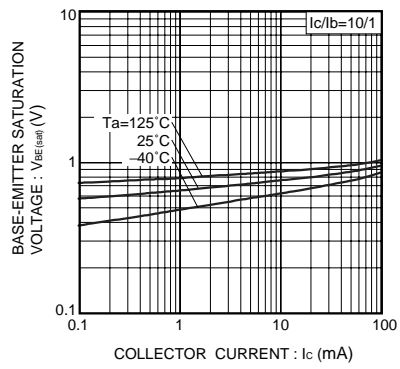


Fig.7 Base-emitter saturation voltage vs. collector current

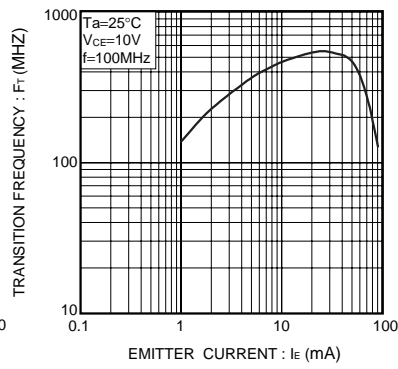


Fig.8 Transition frequency

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