

DESCRIPTION

Mitsubishi 2SA1115 is a silicon PNP epitaxial type transistor designed for low frequency voltage amplify application. Small package for easy mounting.

FEATURE

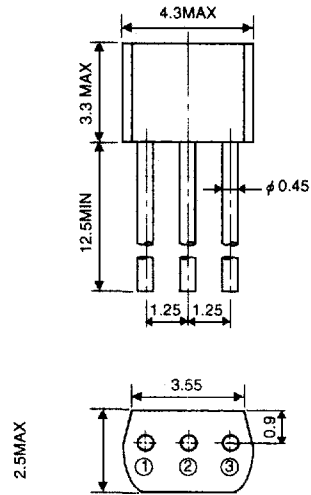
- Excellent linearity of DC forward current gain
- Low collector saturation voltage
 $V_{CE(sat)} = -0.3V$ max (@ $I_C = -100mA, I_B = -10mA$)
- Small package

APPLICATION

For small machine low frequency voltage amplify application.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

- ① : EMITTER EIAJ : —
- ② : COLLECTOR EIAJ : —
- ③ : BASE JEDEC : —

Note)

The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings	Unit
V _{CB0}	Collector to Base voltage	-50	V
V _{EB0}	Emitter to Base voltage	-6	V
V _{CE0}	Collector to Emitter voltage	-50	V
I _C	Collector current	-200	mA
P _C	Collector dissipation (Ta=25°C)	300	mW
T _J	Junction temperature	+125	°C
T _{stg}	Storage temperature	-55 to +125	°C

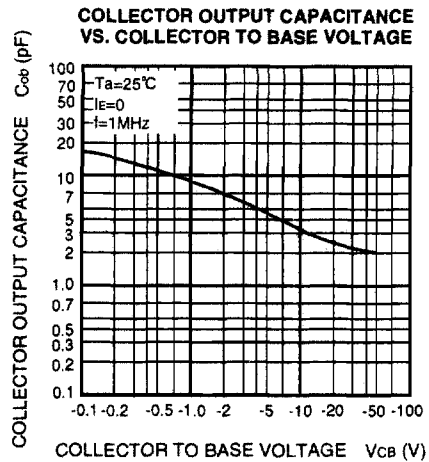
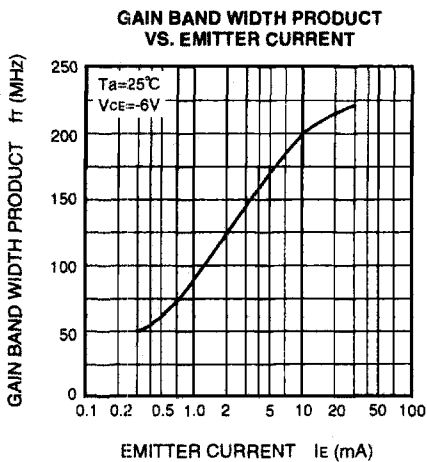
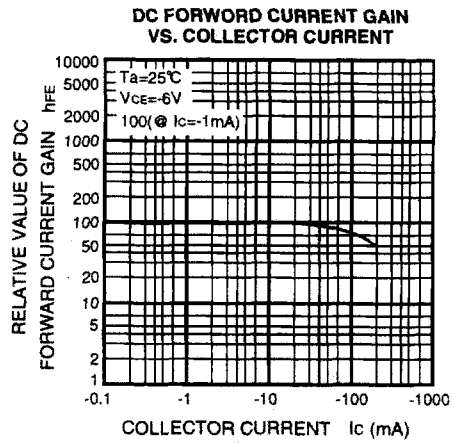
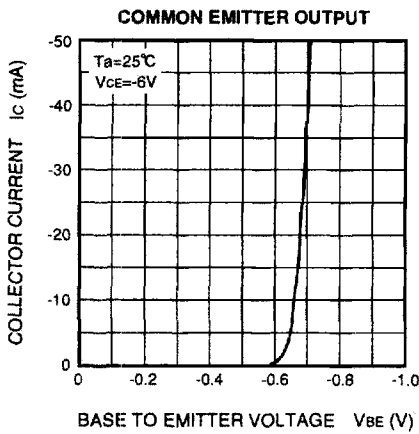
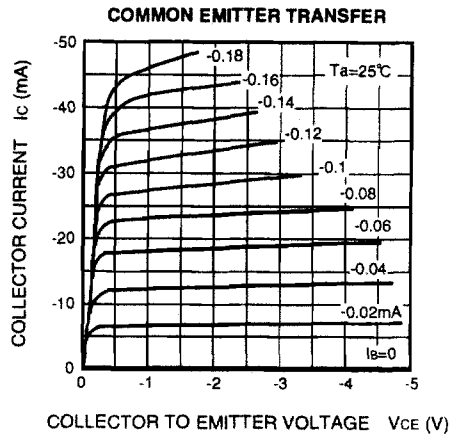
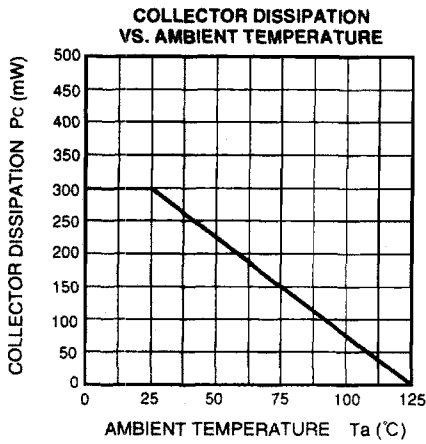
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
V _{(BR)CEO}	C to E break down voltage	I _C =-100 μA, R _{BE} =∞	-50			V
I _{CB0}	Collector cut off current	V _{CB} =-50V, I _E =0			-0.1	μA
I _{EB0}	Emitter cut off current	V _{EB} =-6V, I _C =0			-0.1	μA
h _{FE} *	DC forward current gain	V _{CE} =-6V, I _C =-1mA	90		800	—
h _{FE}	DC forward current gain	V _{CE} =-6V, I _C =-0.1mA	50		—	—
V _{CE(sat)}	C to E saturation voltage	I _C =-100mA, I _B =-10mA			-0.3	V
f _T	Gain band width product	V _{CE} =-6V, I _E =10mA		200		MHz
C _{ob}	Collector output capacitance	V _{CB} =-6V, I _E =0, f=1MHz		4.0		pF
NF	Noise figure	V _{CE} =-6V, I _E =0.3mA, f=100Hz, R _G =10kΩ			20	dB

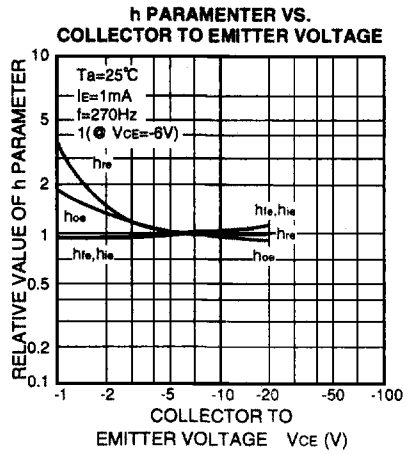
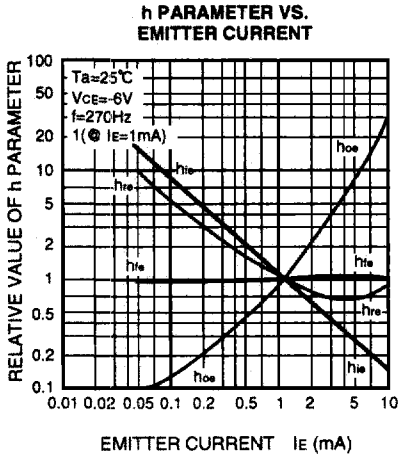
* : It shows h_{FE} classification in right table.

Item	D	E	F	G
h _{FE}	90 to 180	150 to 300	250 to 500	400 to 800

TYPICAL CHARACTERISTICS



FOR LOW FREQUENCY AMPLIFY APPLICATION
SILICON PNP EPITAXIAL TYPE



COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test conditions	Limits	Unit
h_{ie}	Closed loop small signal input impedance	$T_a=25^\circ\text{C}$ $V_{CE}=-6\text{V}$ $I_e=1\text{mA}$ $f=270\text{Hz}$	7.0	k Ω
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		250	—
h_{oe}	Open loop small signal output admittance		18	μS