〈 SMALL-SIGNAL TRANSISTOR〉

2SB1314

FOR LOW FREQUENCY POWER AMPLIFY APPLICATION
SILICON PNP EPITAXIAL PLANAR TYPE

DESCRIPTION

Mitsubishi 2SB1314 is a silicon PNP epitaxial planar type power transistor using insulated full mold package.

FEATURE

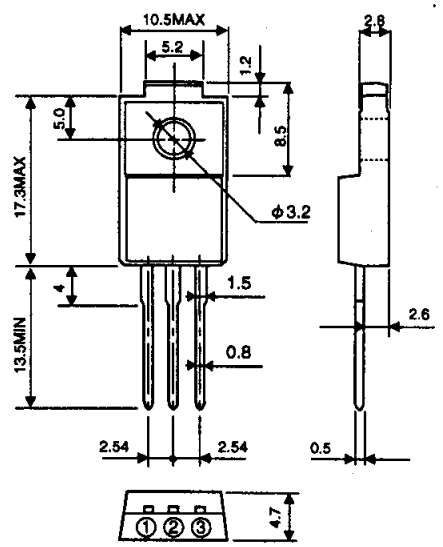
- High collector current I_C=-3A,I_{CM}=-5A
- High h_{FE} h_{FE}=150 to 500
- Full mold package with heat sink
- High voltage V_{CEO}=-60V
- Low collector to emitter saturation voltage
  $V_{CE(sat)}$=-0.5V max(@I_C=-2A,I_B=-0.2A)

APPLICATION

Power supply circuit,solenoid drive.

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR

①: BASE
②: COLLECTOR
③: EMITTER

EIAJ : —
JEDEC : —

Note)
The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter		Ratings	Unit
V_{CBO}	Collector to Base voltage		-60	V
V_{EBO}	Emitter to Base voltage		-7	V
V_{CEO}	Collector to Emitter voltage		-60	V
I_{CM}	Peak collector current		-5	A
I_C	Collector current		-3	A
P_C	Collector dissipation	(Ta=25℃)	2	W
		(Tc=25℃)	15	W
T_j	Junction temperature		+150	℃
T_{stg}	Storage temperature		-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C=-100μA	-60			V
$V_{(BR)EBO}$	E to B break down voltage	I_E=-100μA,I_C=0	-7			V
$V_{(BR)CEO}$	C to E break down voltage	I_C=-1mA,R_{BE}=∞	-60			V
I_{CBO}	Collector cut off current	V_{CB}=-50V,I_E=0			-1	μA
I_{EBO}	Emitter cut off current	V_{EB}=-6V,I_C=0			-1	μA
h_{FE} *	DC forward current gain	V_{CE}=-5V,I_C=-500mA	150		500	–
$V_{CE(sat)}$	C to E saturation voltage	I_C=-2A,I_B=-0.2A			-0.5	V
f_T	Gain band width product	V_{CE}=-6V,I_E=10mA		100		MHz

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

Item	E	F
h_{FE}	150 to 300	250 to 500

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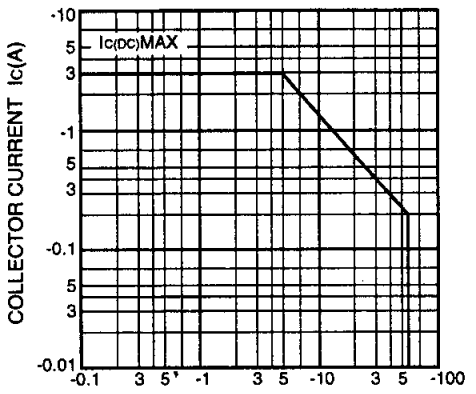
SILICON PNP EPITAXIAL PLANAR TYPE

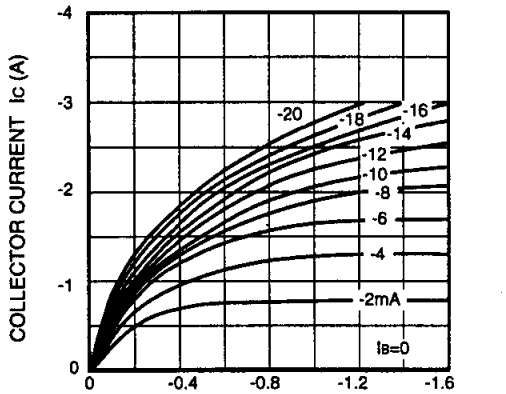
TYPICAL CHARACTERISTICS

AREA OF SAFE OPERATION



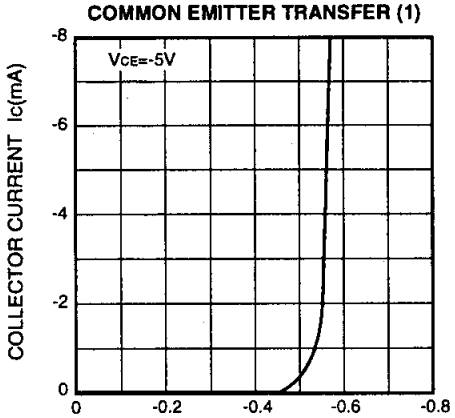
COLLECTOR TO EMITTER VOLTAGE V_{CE}(V)

COMMON EMITTER OUTPUT



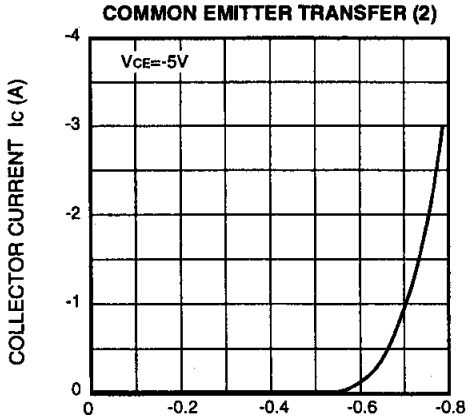
COLLECTOR TO EMITTER VOLTAGE V_{CE}(V)

COMMON EMITTER TRANSFER (1)



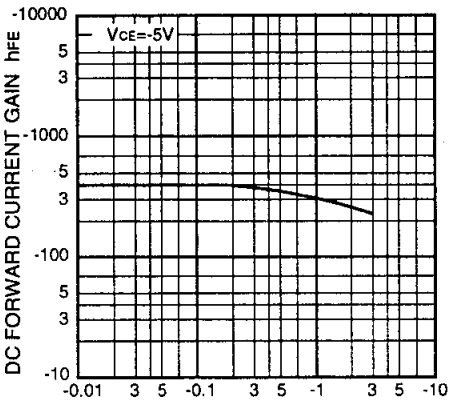
BASE TO EMITTER VOLTAGE V_{BE}(V)

COMMON EMITTER TRANSFER (2)



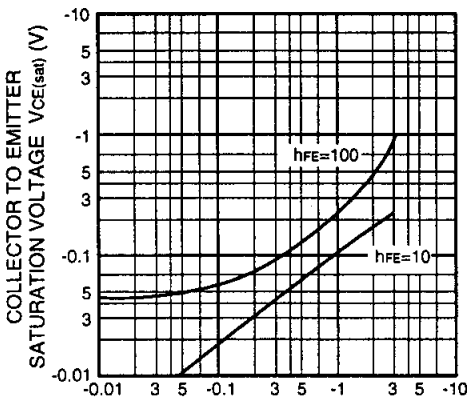
BASE TO EMITTER VOLTAGE V_{BE} (V)

DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR CURRENT Ic(A)

COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



COLLECTOR CURRENT Ic (A)

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Notes regarding these materials