

**FOR LOW FREQUENCY POWER AMPLIFY APPLICATION
SILICON NPN EPITAXIAL PLANAR TYPE****DESCRIPTION**

2SD1972 is a silicon NPN epitaxial planar type power transistor using insulated full mold package.

FEATURE

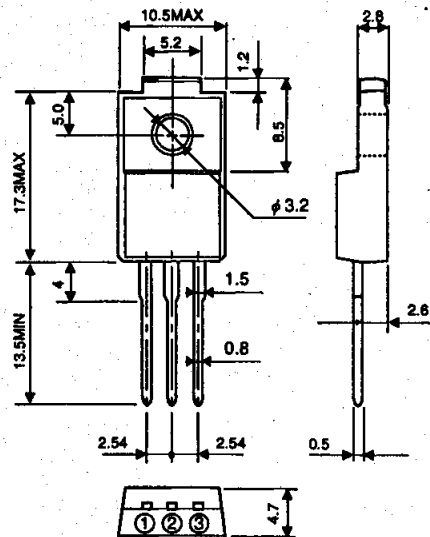
- High collector current $I_C = 3A$, $I_{CM} = 5A$
- High h_{FE} $h_{FE} = 250$ to 800
- Full mold package with heat sink
- High voltage $V_{CEO} = 60V$
- Low collector to emitter saturation voltage
 $V_{CE(sat)} = 0.5V$ max (@ $I_C = 2A$, $I_B = 0.2A$)

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 ($T_a = 25^\circ C$)

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	(T _a =25°C)	2	W
		(T _C =25°C)	15	W
T _J	Junction temperature		+150	°C
T _{stg}	Storage temperature		-55 to +150	°C

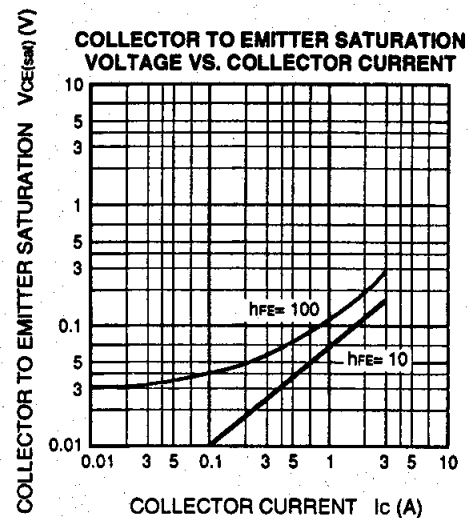
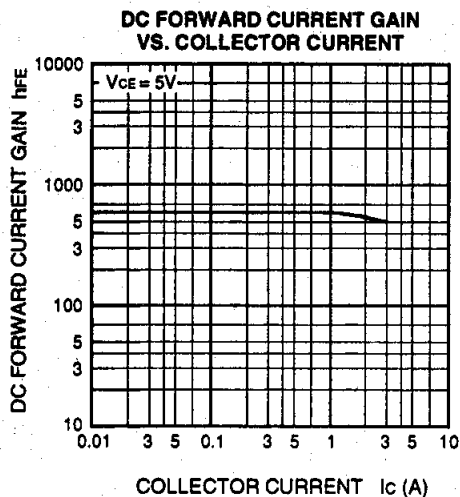
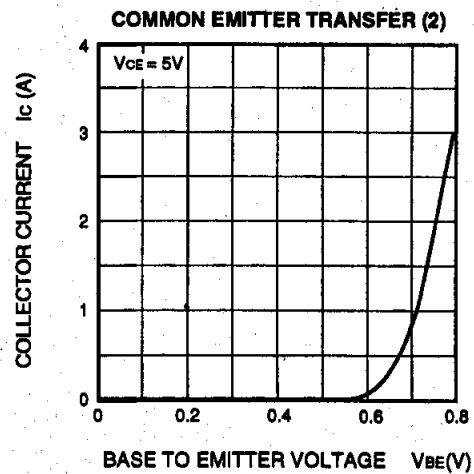
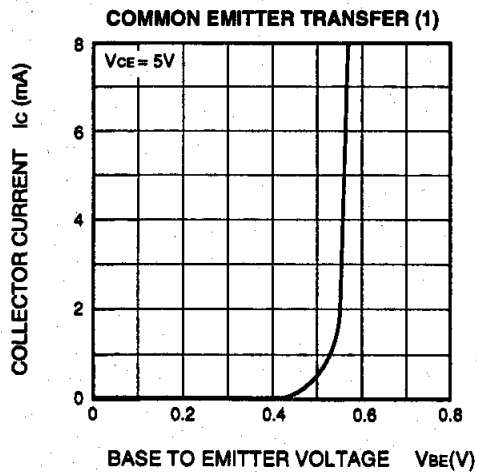
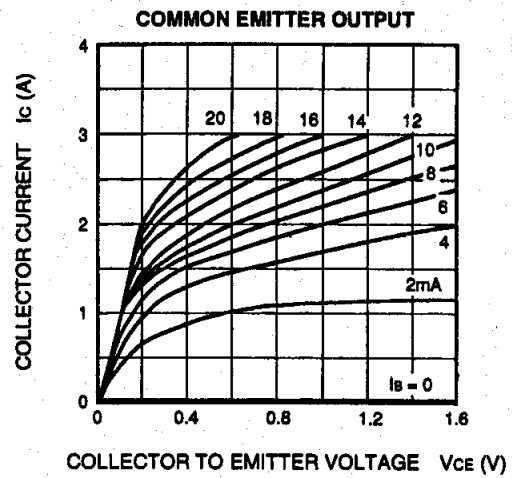
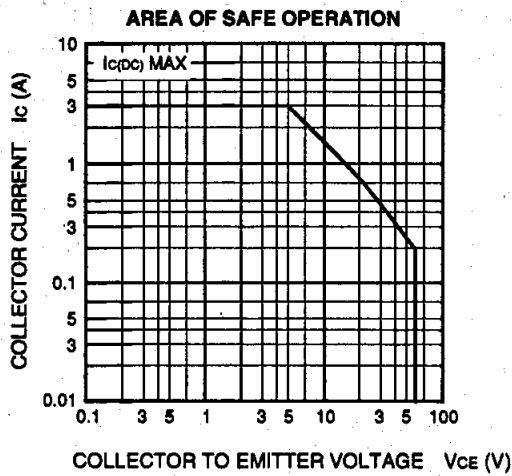
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	$I_C = 100 \mu A$	60			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E = 100 \mu A$, $I_C = 0$	7			V
$V_{(BR)CEO}$	C to E break down voltage	$I_C = 1 mA$, $R_{BE} = \infty$	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	$V_{CE} = 5V$, $I_C = 500mA$	250		800	—
$V_{CE(sat)}$	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	F	G
h_{FE}	250 to 500	400 to 800

TYPICAL CHARACTERISTICS





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