

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

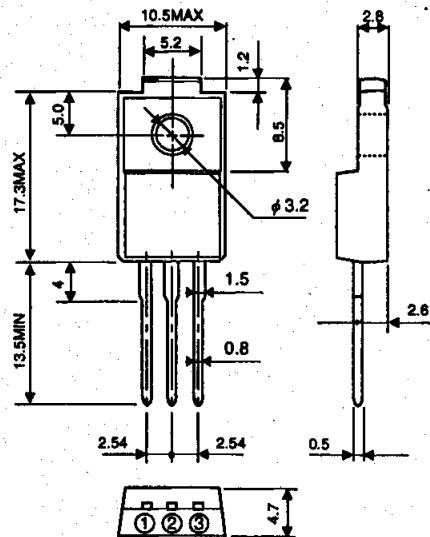
- High collector current  $I_C = 3A$ ,  $I_{CM} = 5A$
- High  $h_{FE}$   $h_{FE} = 250$  to  $800$
- Full mold package with heat sink
- High voltage  $V_{CE0} = 60V$
- Low collector to emitter saturation voltage  
 $V_{CE(sat)} = 0.5V$  max (@  $I_C = 2A$ ,  $I_B = 0.2A$ )

## 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	Rating	Unit	
$V_{CB0}$	Collector to Base voltage	60	V	
$V_{EB0}$	Emitter to Base voltage	7	V	
$V_{CE0}$	Collector to Emitter voltage	60	V	
$I_{CM}$	Peak collector current	5	A	
$I_C$	Collector current	3	A	
$P_C$	Collector dissipation	( $T_a = 25^\circ C$ )	2	W
		( $T_C = 25^\circ C$ )	15	W
$T_j$	Junction temperature	+150	$^\circ C$	
$T_{stg}$	Storage temperature	-55 to +150	$^\circ C$	

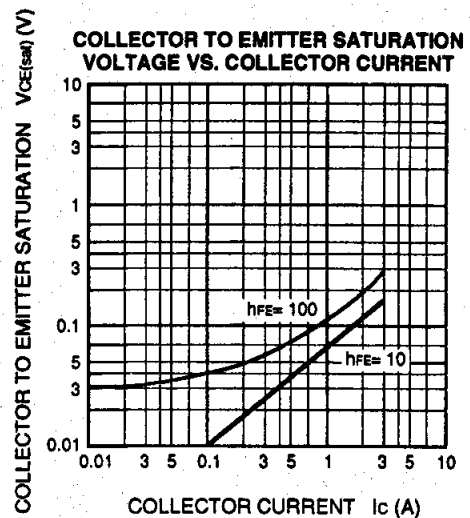
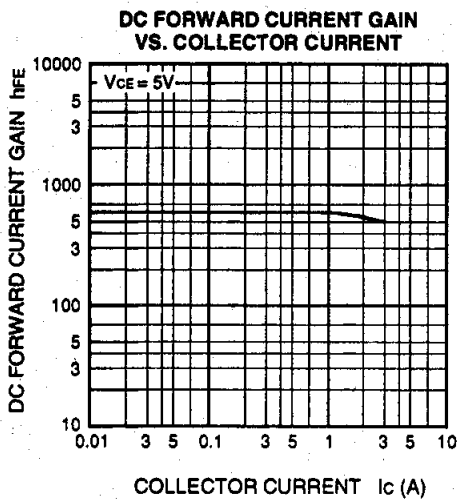
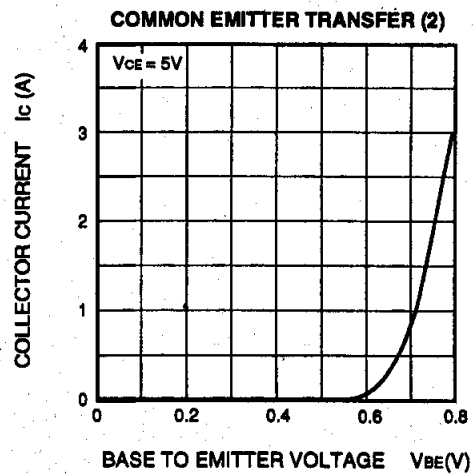
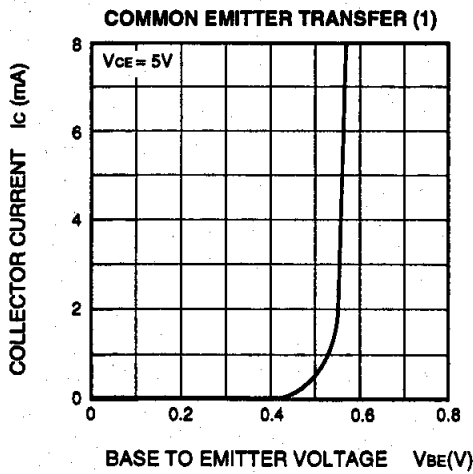
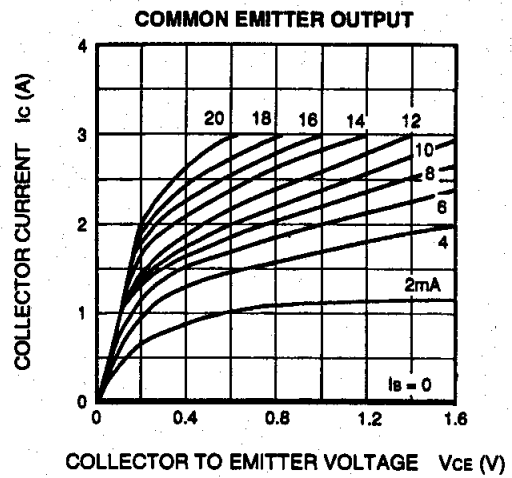
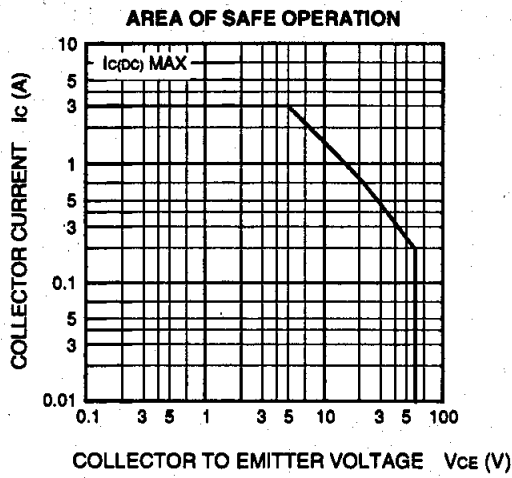
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

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	$\mu A$
$I_{EBO}$	Emitter cut off current	$V_{EB} = 6V$ , $I_C = 0$			1	$\mu A$
$h_{FE}^*$	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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