

# 2SD2053

## Silicon NPN Triple-Diffused Planar Type

High Power Amplifier  
Complementary Pair with 2SB1362

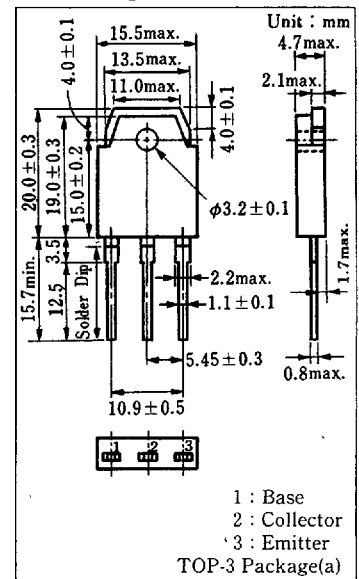
### ■ Features

- High breakdown voltage:  $V_{CE0}=150V$
- Good linearity of DC current gain ( $h_{FE}$ )
- Wide area of safety operation (ASO)
- High transition frequency ( $f_T$ )

### ■ Absolute Maximum Ratings ( $T_c=25^\circ C$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CB0}$	150	V
Collector-emitter voltage	$V_{CE0}$	150	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_C$	9	A
Peak collector current	$I_{CP}$	15	A
Collector power dissipation	$T_c=25^\circ C$	100	W
	$T_a=25^\circ C$	2.5	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ C$

### ■ Package Dimensions

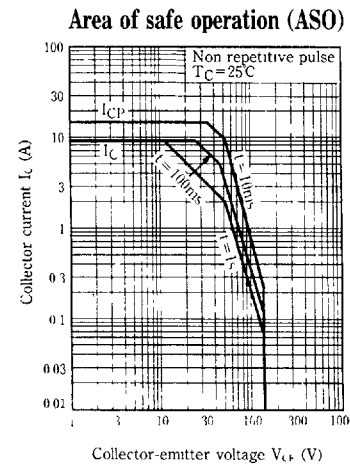
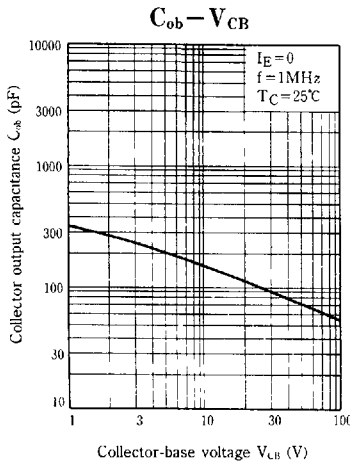
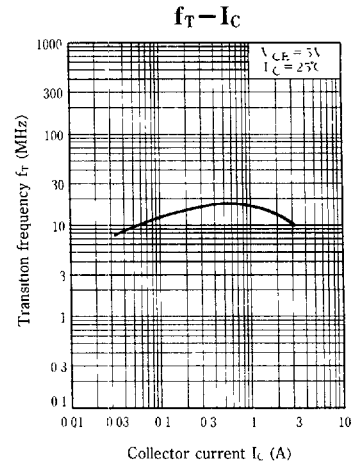
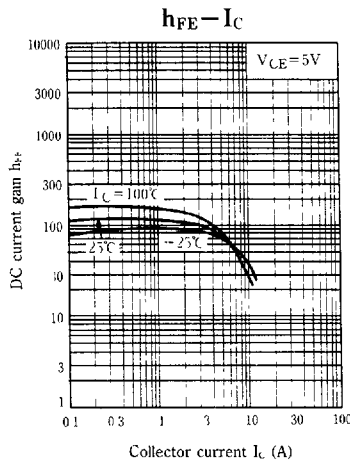
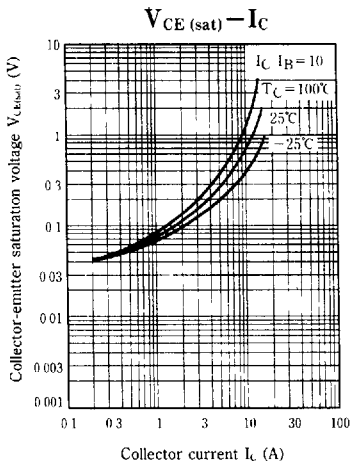
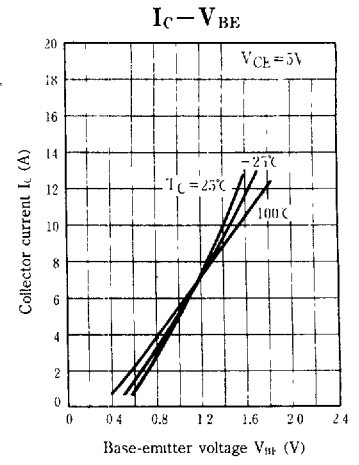
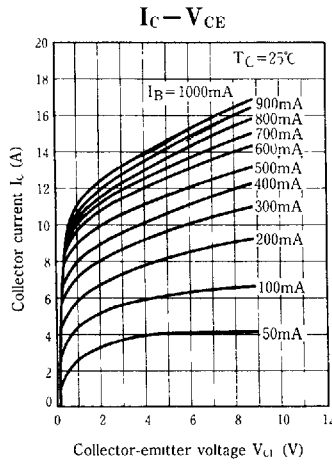
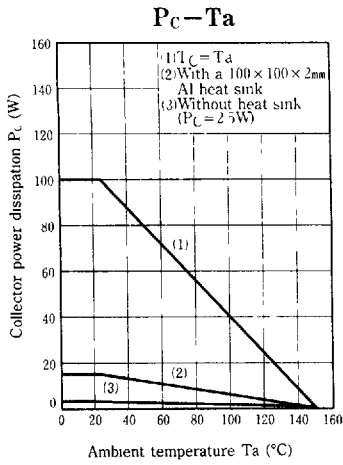


### ■ Electrical Characteristics ( $T_c=25^\circ C$ )

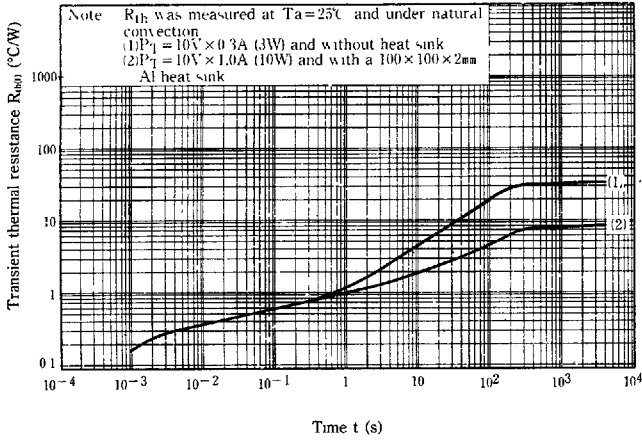
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CB0}$	$V_{CB}=150V, I_E=0$			50	$\mu A$
Emitter cutoff current	$I_{EB0}$	$V_{EB}=3V, I_C=0$			50	$\mu A$
DC current gain	$h_{FE1}$	$V_{CE}=5V, I_C=20mA$	20			
	$h_{FE2}^*$	$V_{CE}=5V, I_C=1A$	60		200	
	$h_{FE3}$	$V_{CE}=5V, I_C=7A$	20			
Base-emitter voltage	$V_{BE}$	$V_{CE}=5V, I_C=7A$			1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=7A, I_B=0.7A$			2.0	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=0.5A, f=1MHz$		20		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		150		pF

### \* $h_{FE2}$ Classifications

Class	Q	S	P
$h_{FE2}$	60~120	80~160	100~200



$R_{th(t)}-t$



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