

2SD2053

Silicon NPN Triple-Diffused Planar Type

High Power Amplifier

Complementary Pair with 2SB1362

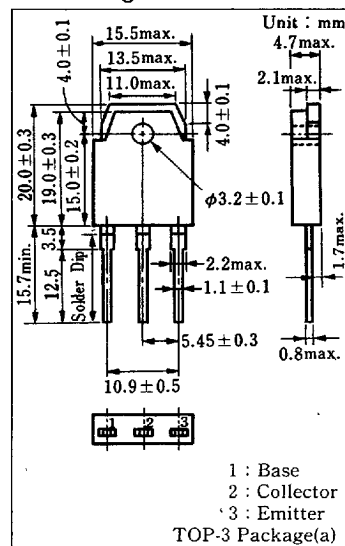
■ Features

- 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_{CBO}	150	V
Collector-emitter voltage		V_{CEO}	150	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	9	A
Peak collector current		I_{CP}	15	A
Collector power dissipation	$T_C=25^{\circ}C$	P_C	100	W
	$T_a=25^{\circ}C$		2.5	W
Junction temperature		T_j	150	$^{\circ}C$
Storage temperature		T_{sig}	$-55\sim+150$	$^{\circ}C$

■ Package Dimensions

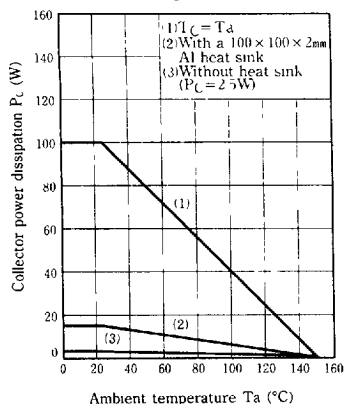
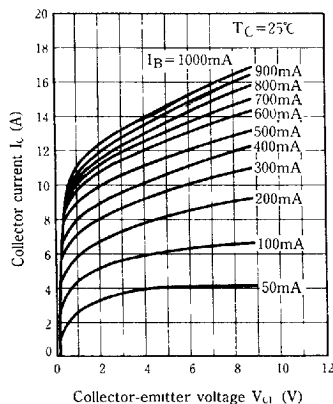
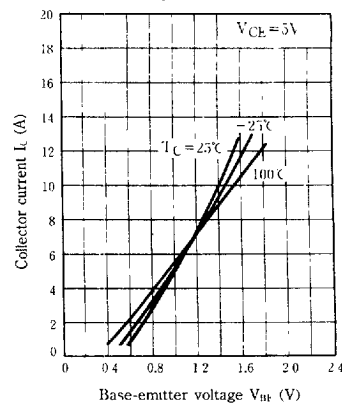
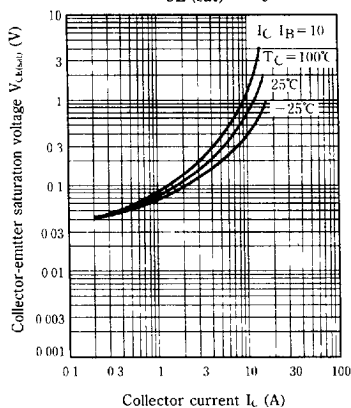
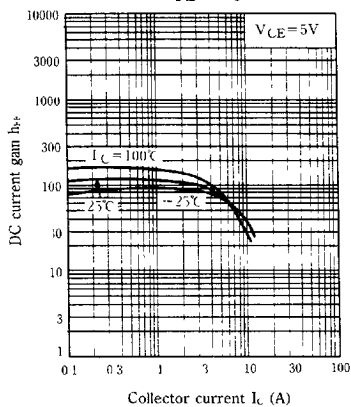
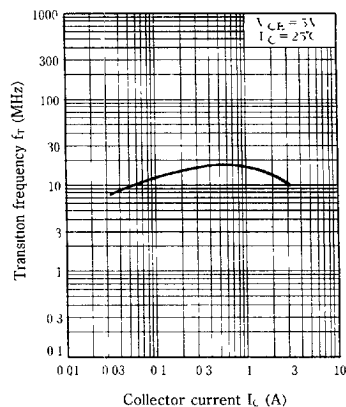
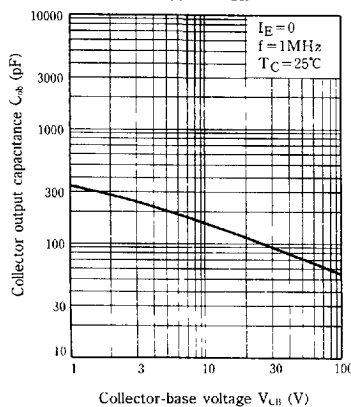


■ Electrical Characteristics ($T_c=25^\circ C$)

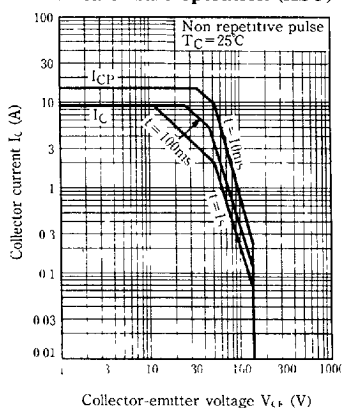
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CB0}	$V_{CB}=150V, I_E=0$			50	μA
Emitter cutoff current	I_{EB0}	$V_{EB}=3V, I_C=0$			50	μA
DC current gain	h_{FE1}	$V_{CE}=5V, I_C=20mA$	20			
	h_{FE2}^*	$V_{CE}=5V, I_C=1A$	60		200	
	h_{FE3}	$V_{CE}=5V, I_C=7A$	20			
Base-emitter 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

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$ 

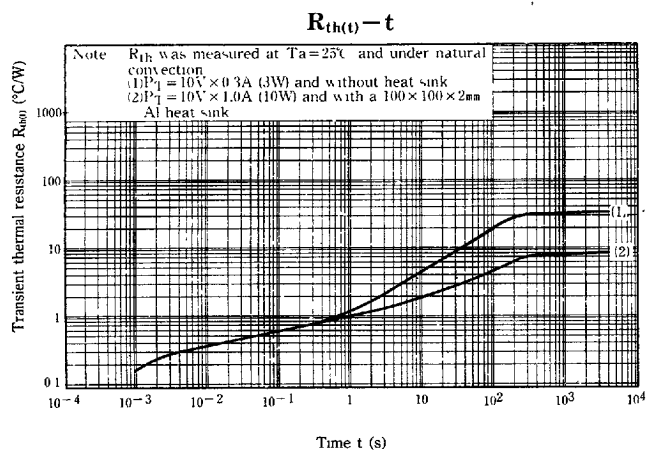
Area of safe operation (ASO)



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