

2SD1252, 2SD1252A

Silicon NPN Triple-Diffused Planar Type

Power Amplifier
Complementary Pair with 2SB929, 2SB929A

- Features
- High DC current gain (h_{FE}) and good linearity
 - Low collector-emitter saturation voltage ($V_{CE(sat)}$)
 - “N Type” package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

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

Item		Symbol	Value	Unit
Collector-base voltage	2SD1252	V_{CBO}	60	V
	2SD1252A		80	
Collector-emitter voltage	2SD1252	V_{CEO}	60	V
	2SD1252A		80	
Emitter-base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	5	A
Collector current		I_C	3	A
Collector power dissipation	$T_c = 25\text{ }^{\circ}\text{C}$	P_C	35	W
	$T_a = 25\text{ }^{\circ}\text{C}$		1.3	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	$-35 \sim +150$	$^{\circ}\text{C}$

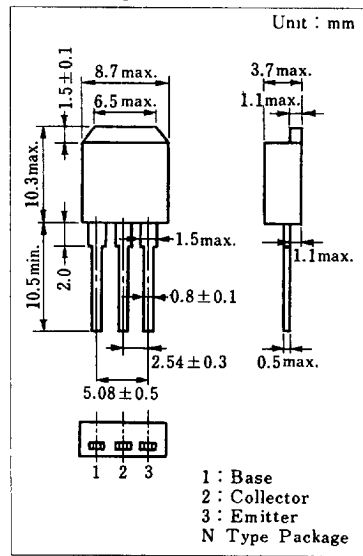
■ Electrical Characteristics ($T_c=25^{\circ}C$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD1252 2SD1252A	I_{CES} $V_{CE}=60V, V_{BE}=0$			200	μA
					200	μA
Collector cutoff current	2SD1252 2SD1252A	I_{CEO} $V_{CE}=30V, I_B=0$ $V_{CE}=60V, I_B=0$			300	μA
					300	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=5V, I_C=0$			1	mA
Collector-emitter voltage	2SD1252 2SD1252A	V_{CEO} $I_C=30mA, I_B=0$	60			V
			80			V
DC current gain	h_{FE1}^* h_{FE2}	$V_{CE}=4V, I_C=1A$ $V_{CE}=4V, I_C=3A$	40		250	
			10			
Base-emitter voltage	V_{BE}	$V_{CE}=4V, I_C=3A$			1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.375A$			1.2	V
Transition frequency	f_T	$V_{CE}=5V, I_C=0.5A, f=10MHz$		30		MHz
Turn-on time	t_{on}	$I_C=1A, I_{B1}=0.1A, I_{B2}=-0.1A$ $V_{CC}=50V$		0.5		μs
Storage time	t_{stg}			2.5		μs
Fall time	t_f			0.4		μs

* h_{FE1} Classifications

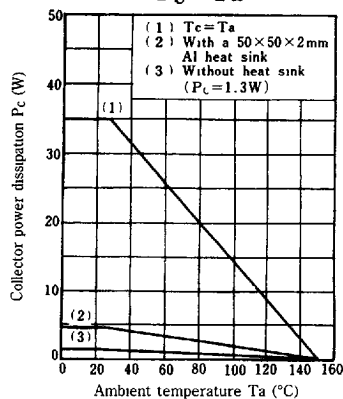
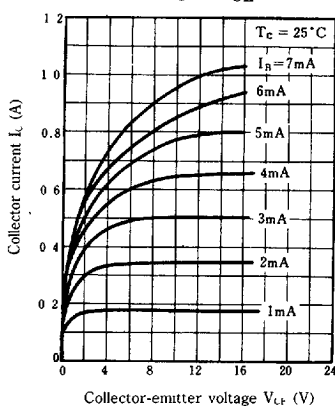
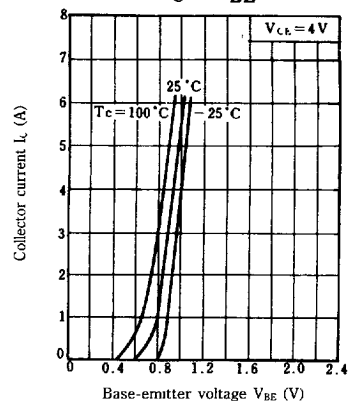
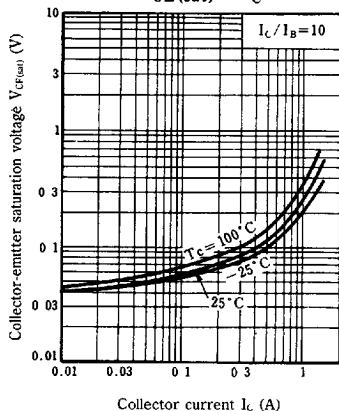
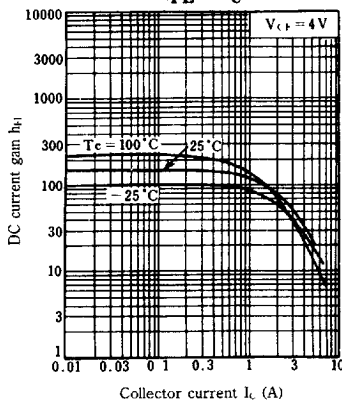
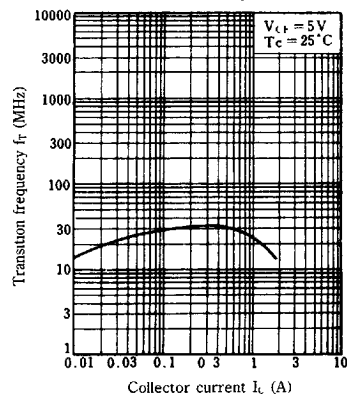
Class	R	Q	P
h_{FE1}	40 ~ 90	70 ~ 150	120 ~ 250

■ Package Dimensions

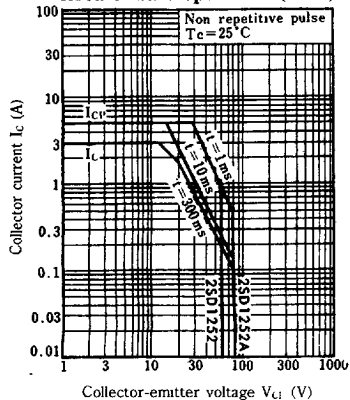


*Surface-mount type is also available.
(Refer to p.82.)

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

Area of safe operation (ASO)

 $R_{th(t)} - t$ 