

2SD1252, 2SD1252A

Silicon NPN triple diffusion planar type

For power amplification

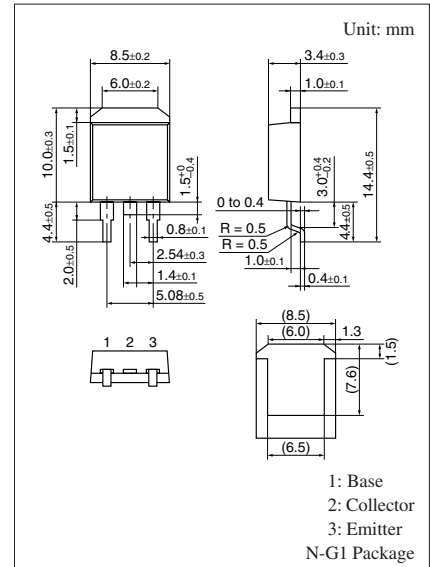
Complementary to 2SB0929, 2SB0929A

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SD1252	60	V
	2SD1252A	80	
Collector-emitter voltage (Base open)	2SD1252	60	V
	2SD1252A	80	
Emitter-base voltage (Collector open)	V_{EBO}	6	V
Collector current	I_C	3	A
Peak collector current	I_{CP}	5	A
Collector power dissipation	P_C	35	W
		$T_a = 25^\circ\text{C}$	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Note) Self-supported type package is also prepared.

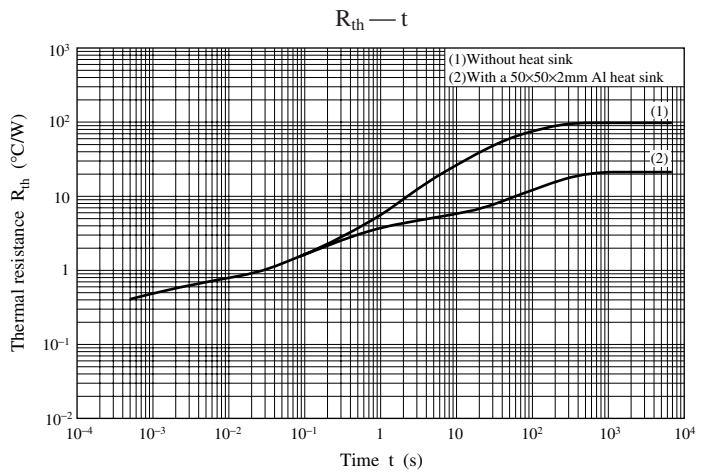
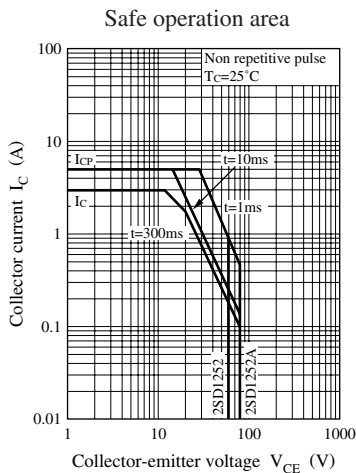
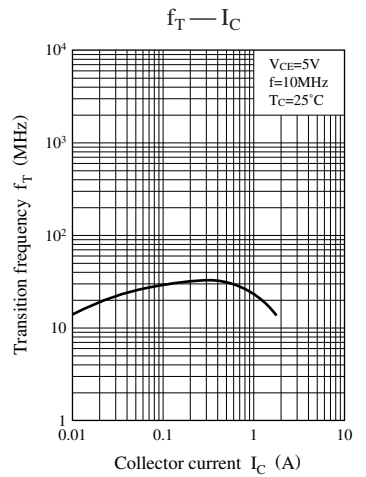
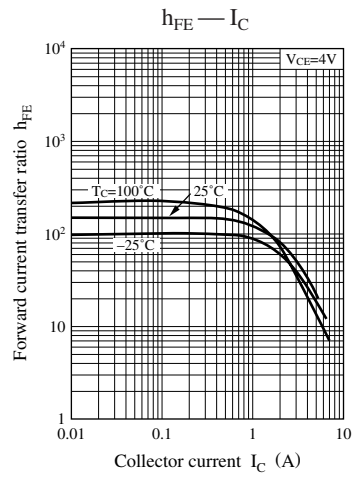
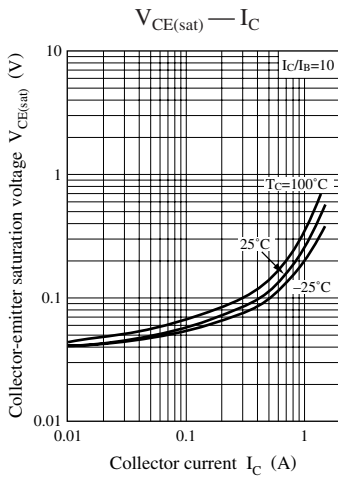
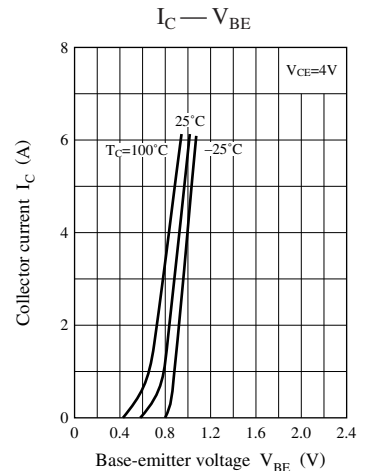
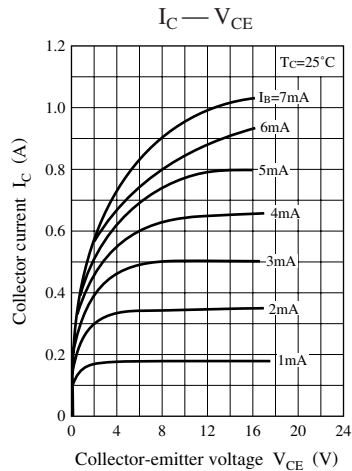
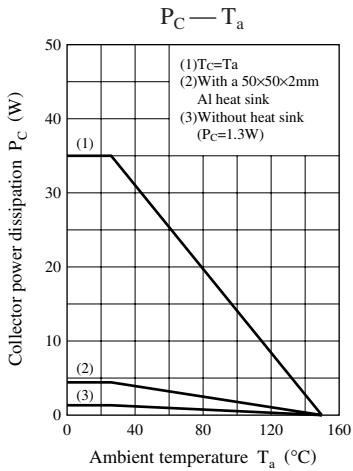
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SD1252	V_{CEO}	$I_C = 30 \text{ mA}, I_B = 0$	60			V
	2SD1252A			80			
Base-emitter voltage		V_{BE}	$V_{\text{CE}} = 4 \text{ V}, I_C = 3 \text{ A}$			1.8	V
Collector-emitter cutoff current (E-B short)	2SD1252	I_{CES}	$V_{\text{CE}} = 60 \text{ V}, V_{\text{BE}} = 0$			200	μA
	2SD1252A			$V_{\text{CE}} = 80 \text{ V}, V_{\text{BE}} = 0$			
Collector-emitter cutoff current (Base open)	2SD1252	I_{CEO}	$V_{\text{CE}} = 30 \text{ V}, I_B = 0$			300	μA
	2SD1252A			$V_{\text{CE}} = 40 \text{ V}, I_B = 0$			
Emitter-base cutoff current (Collector open)		I_{EBO}	$V_{\text{EB}} = 6 \text{ V}, I_C = 0$			1	mA
Forward current transfer ratio		h_{FE1}^*	$V_{\text{CE}} = 4 \text{ V}, I_C = 1 \text{ A}$	40		250	—
		h_{FE2}	$V_{\text{CE}} = 4 \text{ V}, I_C = 3 \text{ A}$	10			
Collector-emitter saturation voltage		$V_{\text{CE(sat)}}$	$I_C = 3 \text{ A}, I_B = 0.375 \text{ A}$			1.2	V
Transition frequency	2SD1252	f_T	$V_{\text{CE}} = 5 \text{ V}, I_C = 0.5 \text{ A}, f = 10 \text{ MHz}$		30		MHz
	2SD1252A				25		
Turn-on time		t_{on}	$I_C = 1 \text{ A}$		0.5		μs
Strage time		t_{stg}	$I_{\text{B1}} = 0.1 \text{ A}, I_{\text{B2}} = -0.1 \text{ A}$		2.5		μs
Fall time		t_f	$V_{\text{CC}} = 50 \text{ V}$		0.4		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	R	Q	P
h_{FE1}	40 to 90	70 to 150	120 to 250



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