

2SD1611

Silicon NPN triple diffusion planar type darlington

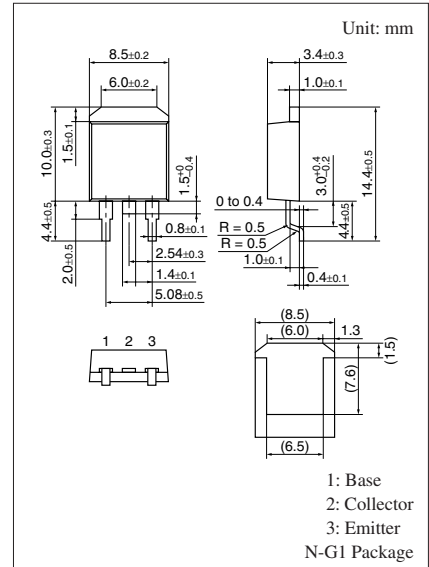
For power amplification

■ Features

- High forward current transfer ratio h_{FE}
- High collector-base voltage (Emitter open) V_{CBO}
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

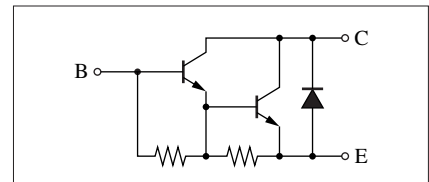
■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	500	V
Collector-emitter voltage (Base open)	V_{CEO}	400	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	6	A
Peak collector current	I_{CP}	10	A
Collector power dissipation	P_C	40	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.

Internal Connection

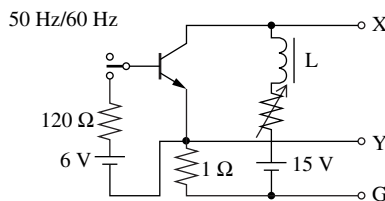


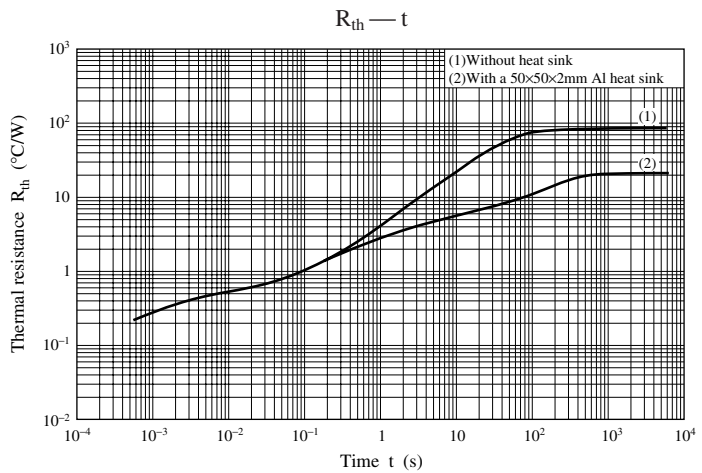
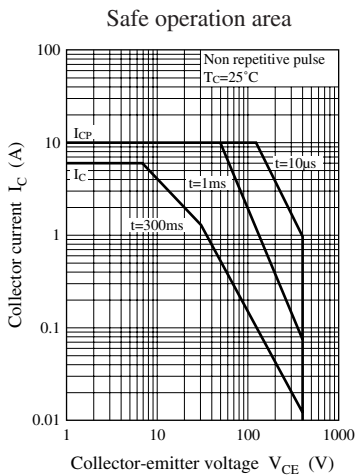
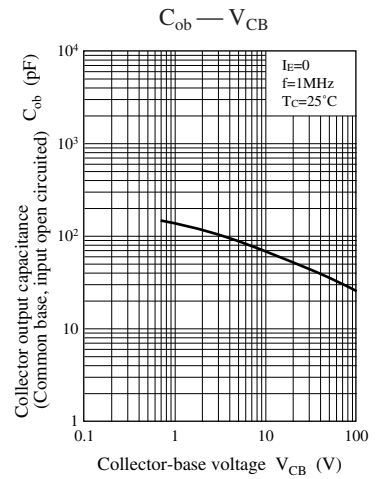
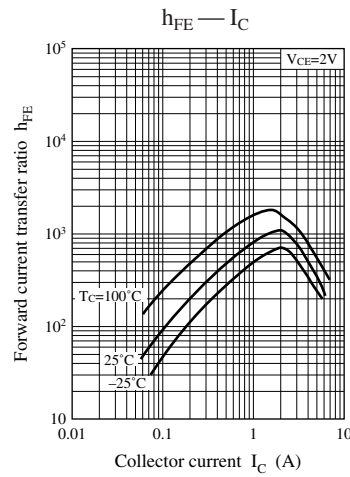
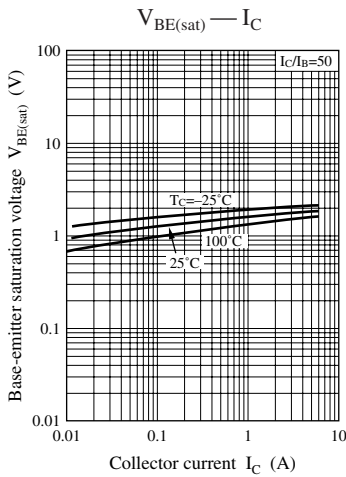
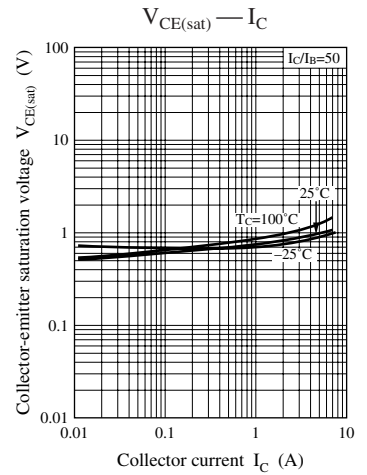
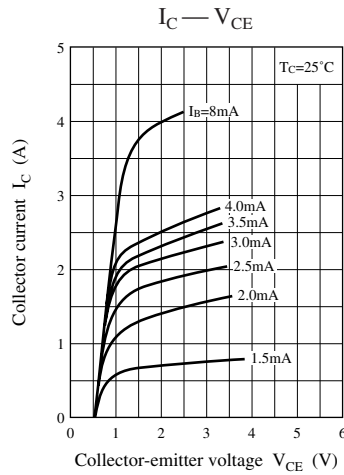
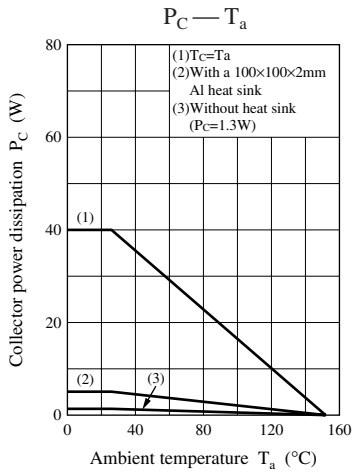
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 0.1 \text{ A}, I_C = 0$	5			V
Collector-emitter sustaining voltage *	$V_{CEO(SUS)}$	$I_C = 2 \text{ A}, L = 10 \text{ mH}$	400			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 350 \text{ V}, I_E = 0$			100	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	500			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.06 \text{ A}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.06 \text{ A}$			2.5	V
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ A}, f = 1 \text{ MHz}$		15		MHz

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

2. *: $V_{CEO(SUS)}$ Test circuit





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