

# 2SD1261, 2SD1261A

Silicon NPN triple diffusion planar type darlington

For power amplification

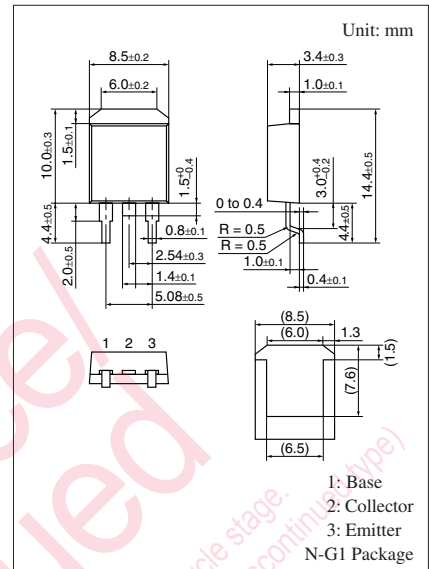
Complementary to 2SB0938, 2SB0938A

## ■ Features

- High forward current transfer ratio  $h_{FE}$
- High-speed switching
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

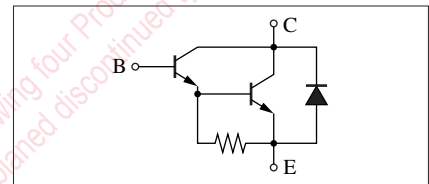
## ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SD1261	60	V
	2SD1261A	80	
Collector-emitter voltage (Base open)	2SD1261	60	V
	2SD1261A	80	
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	4	A
Peak collector current	$I_{CP}$	8	A
Collector power dissipation	$P_C$	40	W
		$T_a = 25^\circ\text{C}$	1.3
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



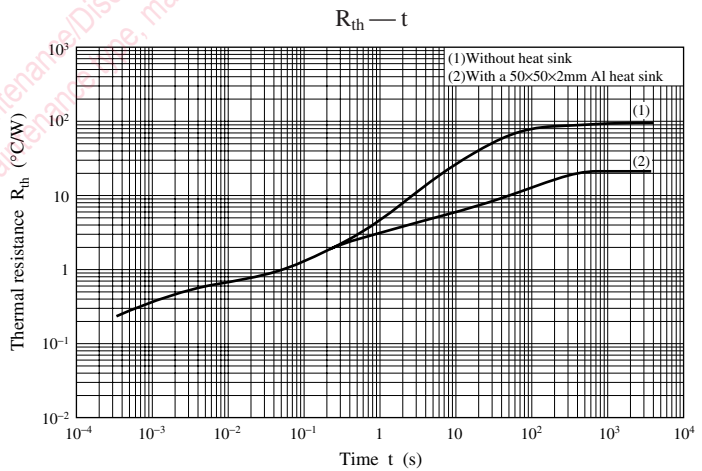
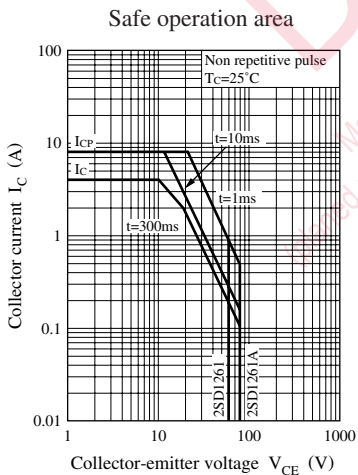
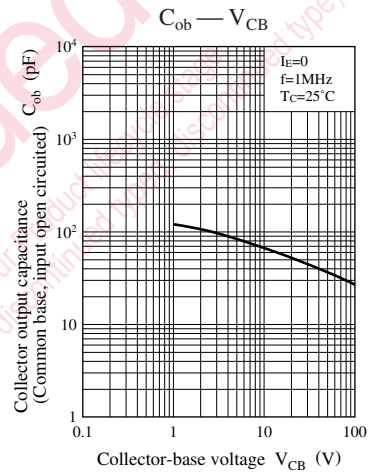
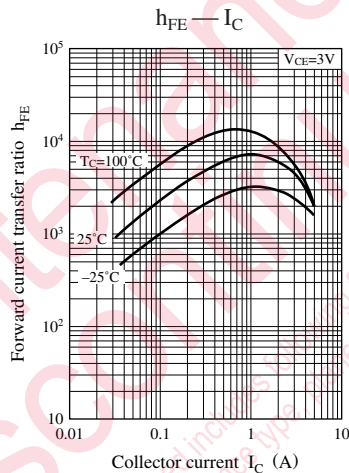
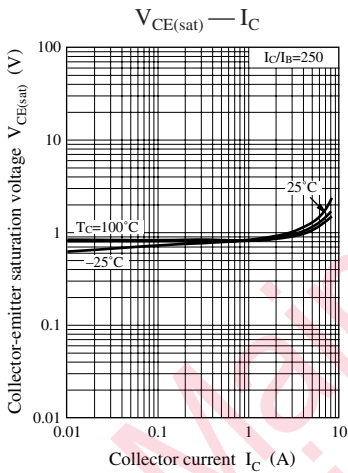
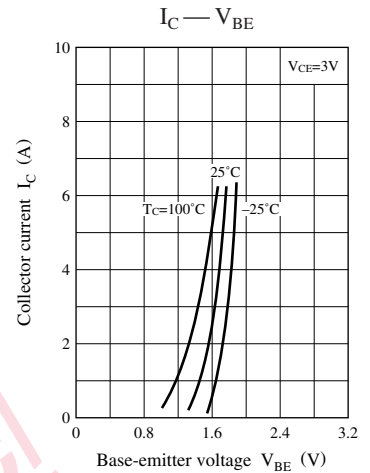
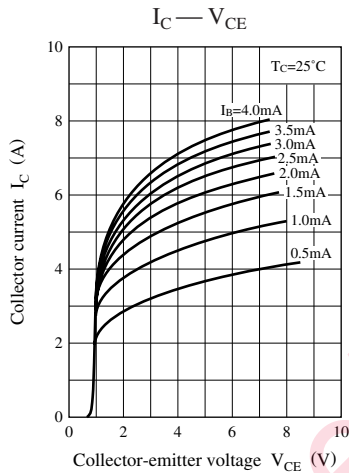
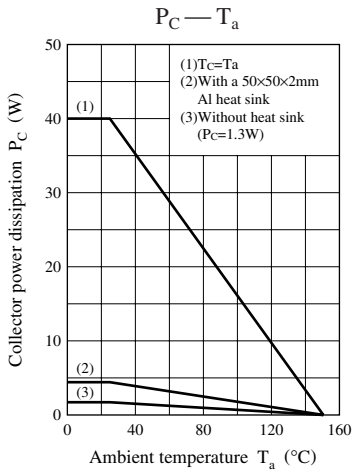
■ Electrical Characteristics  $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SD1261	$V_{\text{CEO}}$	$I_C = 30 \text{ mA}, I_B = 0$	60			V
	2SD1261A			80			
Base-emitter voltage		$V_{\text{BE}}$	$V_{\text{CE}} = 3 \text{ V}, I_C = 3 \text{ A}$			2.5	V
Collector-base cutoff current (Emitter open)	2SD1261	$I_{\text{CBO}}$	$V_{\text{CB}} = 60 \text{ V}, I_E = 0$			200	$\mu\text{A}$
	2SD1261A			$V_{\text{CB}} = 80 \text{ V}, I_E = 0$			
Collector-emitter cutoff current (Base open)	2SD1261	$I_{\text{CEO}}$	$V_{\text{CE}} = 30 \text{ V}, I_B = 0$			500	$\mu\text{A}$
	2SD1261A			$V_{\text{CE}} = 40 \text{ V}, I_B = 0$			
Emitter-base cutoff current (Collector open)		$I_{\text{EBO}}$	$V_{\text{EB}} = 5 \text{ V}, I_C = 0$			2	mA
Forward current transfer ratio		$h_{\text{FE1}}$	$V_{\text{CE}} = 3 \text{ V}, I_C = 0.5 \text{ A}$	1000			—
		$h_{\text{FE2}}^*$	$V_{\text{CE}} = 3 \text{ V}, I_C = 3 \text{ A}$	1000		10000	
Collector-emitter saturation voltage		$V_{\text{CE(sat)}}$	$I_C = 3 \text{ A}, I_B = 12 \text{ mA}$			2.0	V
			$I_C = 5 \text{ A}, I_B = 20 \text{ mA}$			4.0	V
Transition frequency		$f_T$	$V_{\text{CE}} = 10 \text{ V}, I_C = 0.5 \text{ A}, f = 1 \text{ MHz}$		20		MHz
Turn-on time		$t_{\text{on}}$	$I_C = 3 \text{ A}$		0.5		$\mu\text{s}$
Storage time		$t_{\text{stg}}$	$I_{\text{B1}} = 12 \text{ mA}, I_{\text{B2}} = -12 \text{ mA}$		4.0		$\mu\text{s}$
Fall time		$t_f$	$V_{\text{CC}} = 50 \text{ V}$		1.0		$\mu\text{s}$

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

2. \*: Rank classification

Rank	R	Q	P
$h_{\text{FE2}}$	1000 to 2500	2000 to 5000	4000 to 10000



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