

2SD1261, 2SD1261A

Silicon NPN triple diffusion planar type darlington

For power amplification

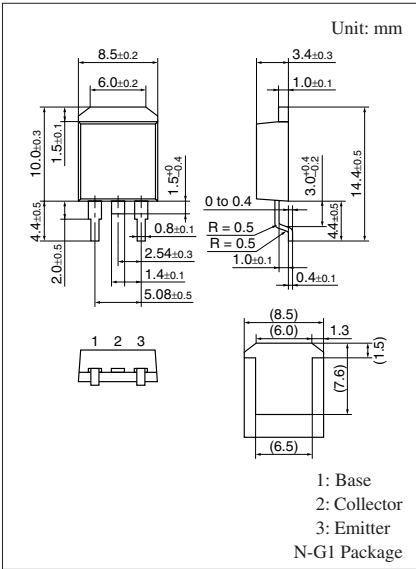
Complementary to 2SB0938, 2SB0938A

■ 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.

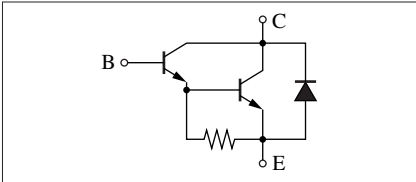
■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SD1261 V_{CBO}	60	V
	2SD1261A	80	
Collector-emitter voltage (Base open)	2SD1261 V_{CEO}	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
		1.3	
	$T_a = 25^\circ\text{C}$		
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



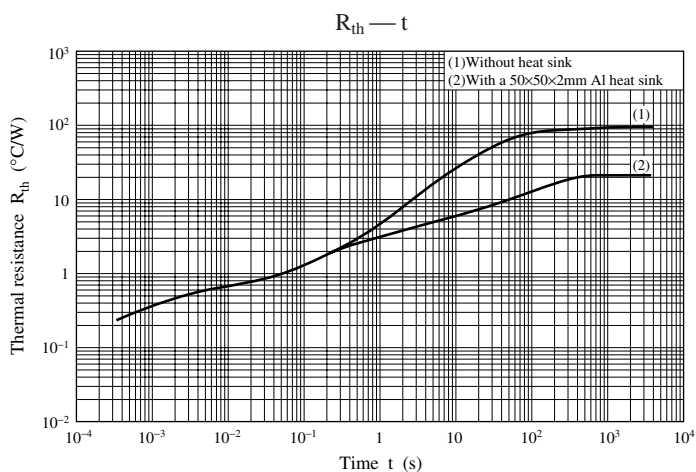
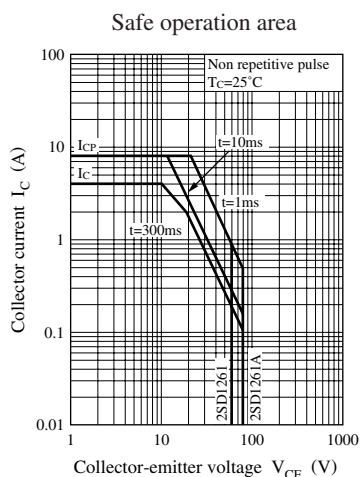
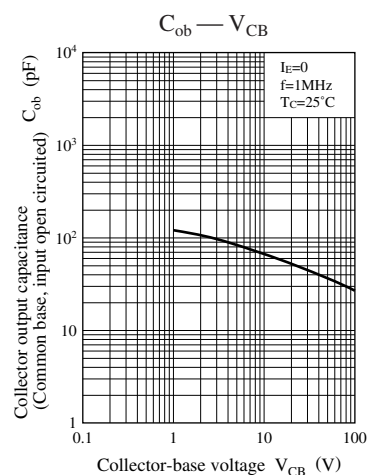
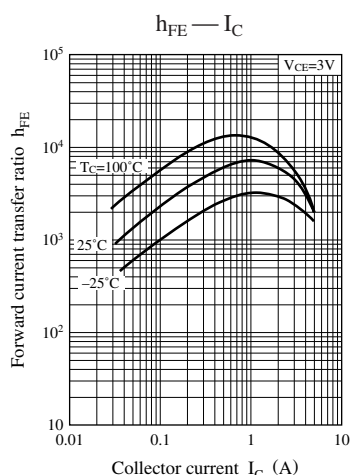
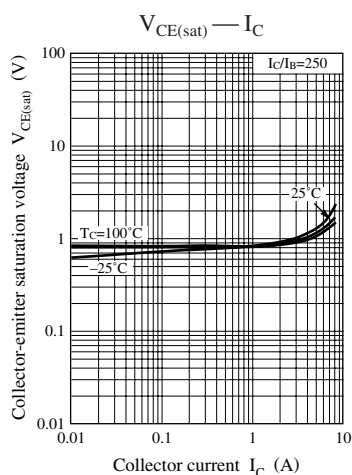
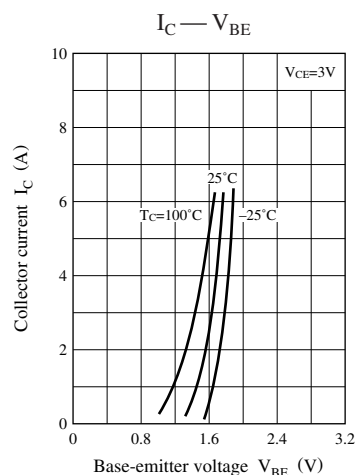
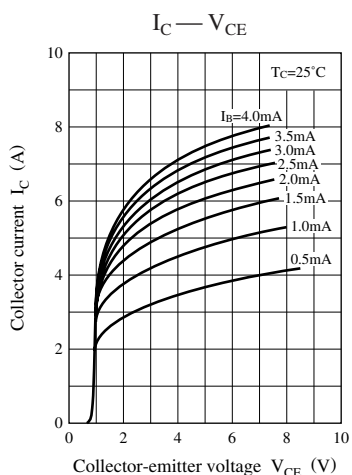
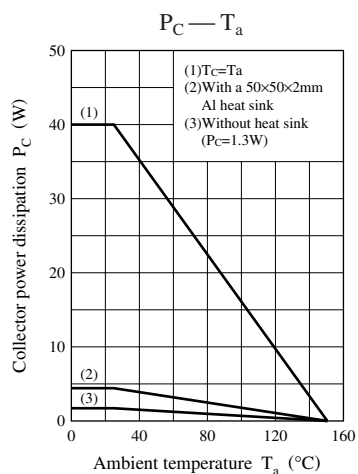
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SD1261	V_{CEO}	$I_C = 30\text{ mA}, I_B = 0$	60			V
	2SD1261A			80			
Base-emitter voltage		V_{BE}	$V_{CE} = 3\text{ V}, I_C = 3\text{ A}$			2.5	V
Collector-base cutoff current (Emitter open)	2SD1261	I_{CBO}	$V_{CB} = 60\text{ V}, I_E = 0$			200	μA
	2SD1261A		$V_{CB} = 80\text{ V}, I_E = 0$			200	
Collector-emitter cutoff current (Base open)	2SD1261	I_{CEO}	$V_{CE} = 30\text{ V}, I_B = 0$			500	μA
	2SD1261A		$V_{CE} = 40\text{ V}, I_B = 0$			500	
Emitter-base cutoff current (Collector open)		I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			2	mA
Forward current transfer ratio		h_{FE1}	$V_{CE} = 3\text{ V}, I_C = 0.5\text{ A}$	1 000			—
		h_{FE2}^*	$V_{CE} = 3\text{ V}, I_C = 3\text{ A}$	1 000		10 000	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 12\text{ mA}$			2.0	V
			$I_C = 5\text{ A}, I_B = 20\text{ mA}$			4.0	V
Transition frequency		f_T	$V_{CE} = 10\text{ V}, I_C = 0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Turn-on time		t_{on}	$I_C = 3\text{ A}$ $I_{B1} = 12\text{ mA}, I_{B2} = -12\text{ mA}$ $V_{CC} = 50\text{ V}$		0.5		μs
Strage time		t_{stg}			4.0		μs
Fall time		t_f			1.0		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_{FE2}	1 000 to 2500	2 000 to 5 000	4 000 to 10 000



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