

2SD2018

Silicon NPN epitaxial planar type darlington

For low-frequency amplification

■ Features

- High forward current transfer ratio h_{FE}
- Built-in 60 V Zener diode between base to collector

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	60^{+25}_{-10}	V
Collector-emitter voltage (Base open)	V_{CEO}	60^{+25}_{-10}	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	1	A
Peak collector current	I_{CP}	1.5	A
Collector power dissipation	P_C	1.2 5.0	W
$T_C = 25^\circ\text{C}$			
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

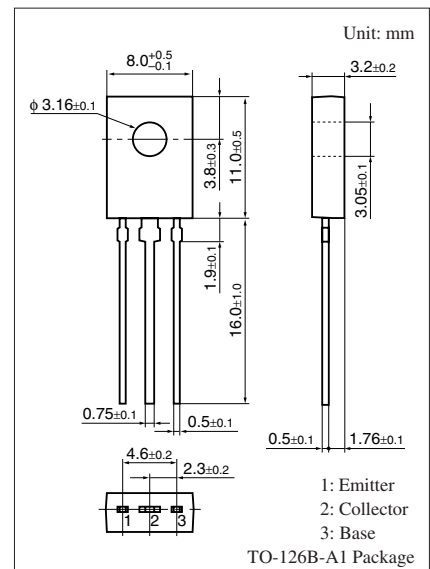
Note) *: With a 100 mm × 100 mm × 2 mm Al heat sick.

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

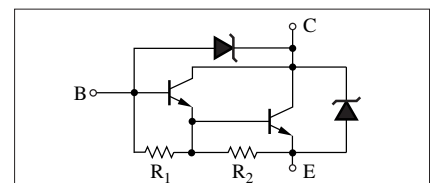
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	50		85	V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1\ \text{mA}$, $I_B = 0$	50		85	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 25\ \text{V}$, $I_E = 0$			1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 4\ \text{V}$, $I_C = 0$			2	mA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 10\ \text{V}$, $I_C = 1.0\ \text{A}$	6 500		40 000	—
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 1.0\ \text{A}$, $I_B = 1.0\ \text{mA}$			1.8	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 1.0\ \text{A}$, $I_B = 1.0\ \text{mA}$			2.2	V

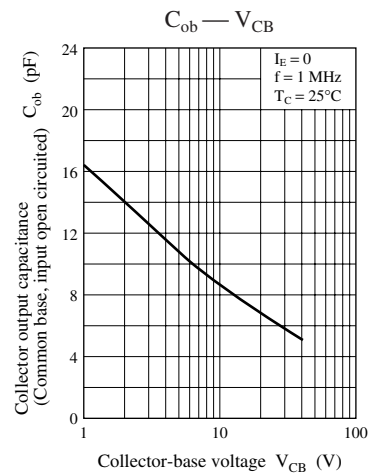
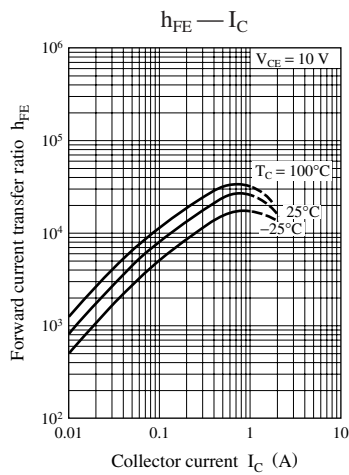
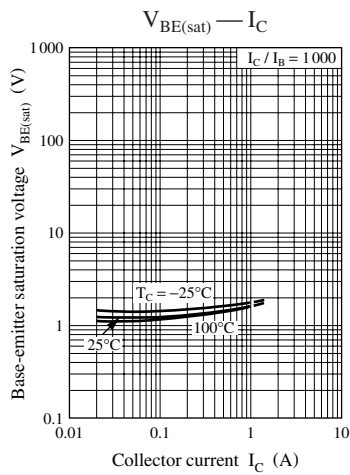
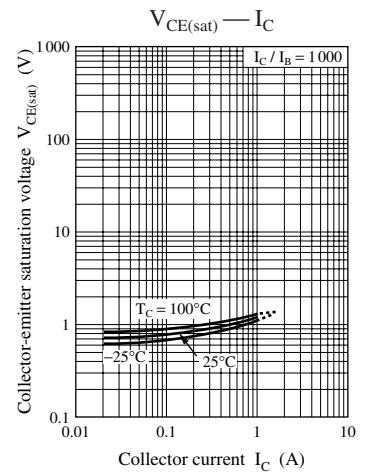
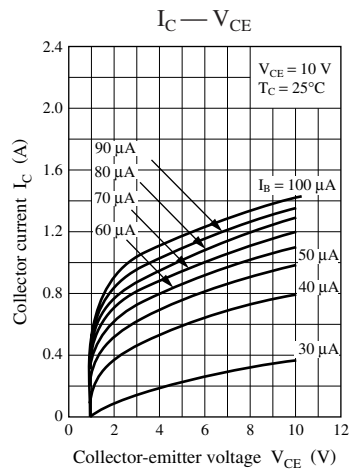
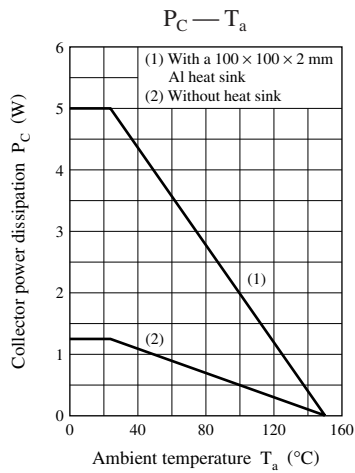
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Pulse measurement



Internal Connection





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