2SD0946 (2SD946), 2SD0946A (2SD946A), 2SD0946B (2SD946B)

Silicon NPN epitaxial planar type darlington

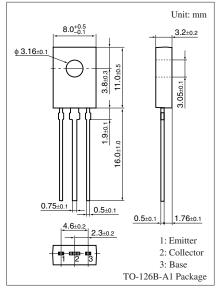
For low-frequency amplification

Features

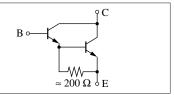
- Forward current transfer ratio h_{FE} is designed high, which is appropriate to the driver circuit of motors and printer hammer.
- A shunt resistor is omitted from the driver.

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

Parameter	Symbol	Rating	Unit		
Collector-base voltage	2SD0946	V _{CBO}	30	V	
(Emitter open)	2SD0946A		60		
	2SD0946B		100		
Collector-emitter voltage	2SD0946	V _{CEO}	25	V	
(Base open)	2SD0946A		50		
	2SD0946B		80		
Emitter-base voltage (Coll	V _{EBO}	5	V		
Collector current	I _C	1	А		
Peak collector current	I _{CP}	1.5	А		
Collector power dissipatio	P _C	1.2	W		
Junction temperature	Tj	150	°C		
Storage temperature	T _{stg}	-55 to +150	°C		



Internal Connection



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

Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage	2SD0946	V _{CBO}	$I_{C} = 100 \ \mu A, I_{E} = 0$	30			V
(Emitter open)	2SD0946A			60			
	2SD0946B			100			
Collector-emitter voltage	2SD1263	V _{CEO}	$I_{\rm C} = 1 {\rm mA}, I_{\rm B} = 0$	25			V
(Base open)	2SD0946A			50			
	2SD0946B			80			
Emitter-base voltage (Collector open)		V _{EBO}	$I_E = 100 \ \mu A, \ I_C = 0$	5			V
Collector-base cutoff current (Emitter open)		I _{CBO}	$V_{CB} = 25 \text{ V}, I_E = 0$			0.1	μΑ
Emitter-base cutoff current (Collector open)		I _{EBO}	$V_{EB} = 4 V, I_C = 0$			0.1	μΑ
Forward current transfer ratio ^{*1, 2} h _F		h _{FE}	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ A}$	4000		40 000	
Collector-emitter saturation voltage *1 V _{CE(sat}		V _{CE(sat)}	$I_{C} = 1 A, I_{B} = 1 mA$			1.8	V
Base-emitter saturation voltage *1 V _{BE(sa}		V _{BE(sat)}	$I_{\rm C} = 1 \text{ A}, I_{\rm B} = 1 \text{ mA}$			2.2	V
Transition frequency		f _T	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		150		MHz

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

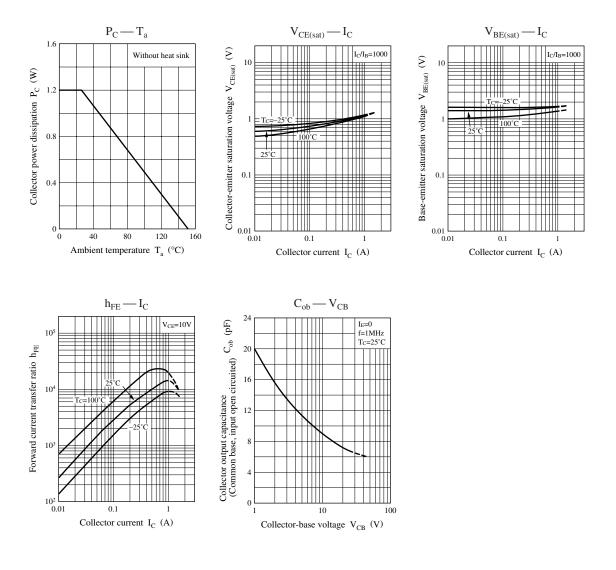
2. *1: Pulse measurement *2: Rank classification

2. Runk clussification							
Rank	Q	R	S				
h _{FE}	4000 to 10000	8000 to 20000	16000 to 40000				

Note) The part numbers in the parenthesis show conventional part number.

2SD0946, 2SD0946A, 2SD0946B

Panasonic



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