2SD1271, 2SD1271A

Silicon NPN epitaxial planar type

For power switching

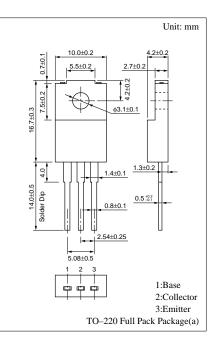
Complementary to 2SB0946 (2SB946) and 2SB0946A (2SB946A)

Features

- Low collector to emitter saturation voltage V_{CE(sat)}
- Satisfactory linearity of foward current transfer ratio h_{FE}
- Large collector current I_C
- Full-pack package which can be installed to the heat sink with one screw

\square Absolute Maximum Ratings (1 _C =23 C)							
Parameter		Symbol	Ratings	Unit			
Collector to	2SD1271	V	130	V			
base voltage	2SD1271A	V _{CBO}	150				
Collector to	2SD1271	17	80	V			
emitter voltage	2SD1271A	V _{CEO}	100				
Emitter to base voltage		V _{EBO}	7	V			
Peak collector current		I _{CP}	15	А			
Collector current		I _C	7	А			
Collector power	T _C =25°C	D	40	W			
dissipation	Ta=25°C	P _C	2				
Junction temperature		Tj	150	°C			
Storage temperature		T _{stg}	-55 to +150	°C			

Absolute Maximum Ratings (T_C=25°C)



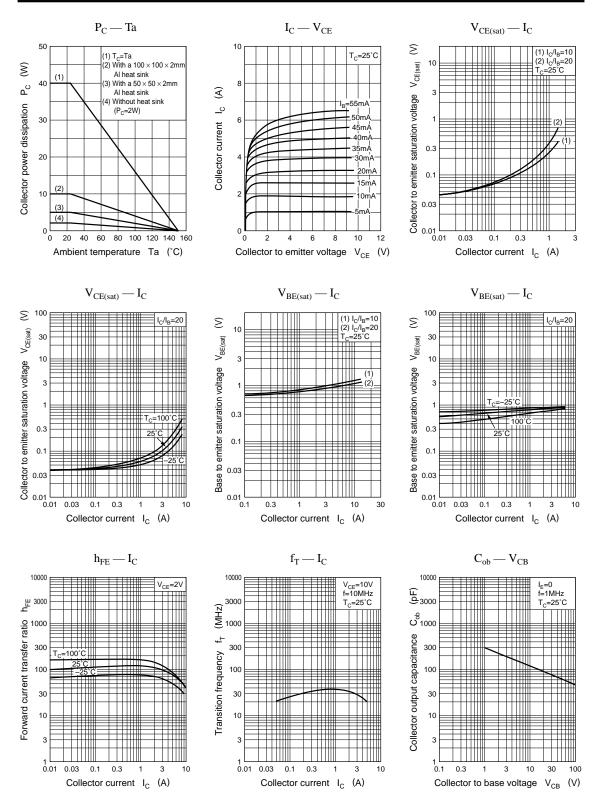
Electrical Characteristics $(T_C=25^{\circ}C)$

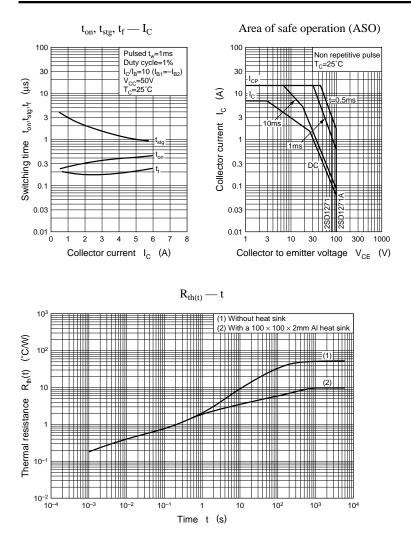
Paramete	er	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I _{CBO}	$V_{CB} = 100V, I_E = 0$			10	μA
Emitter cutoff current		I _{EBO}	$V_{EB} = 5V, I_C = 0$			50	μΑ
Collector to emitter	2SD1271	- V _{CEO}	$I_{\rm C} = 10 {\rm mA}, I_{\rm B} = 0$	80			- V
voltage	2SD1271A			100			
Forward current transfer ratio		h _{FE1}	$V_{CE} = 2V, I_C = 0.1A$	45			
		h _{FE2} *	$V_{CE} = 2V, I_C = 3A$	90		260	
Collector to emitter saturation voltage		V _{CE(sat)}	$I_{\rm C} = 5A, I_{\rm B} = 0.25A$			0.5	v
Base to emitter saturation voltage		V _{BE(sat)}	$I_{\rm C} = 5A, I_{\rm B} = 0.25A$			1.5	v
Transition frequency		f _T	$V_{CE} = 10V, I_C = 0.5A, f = 10MHz$		30		MHz
Turn-on time		t _{on}	$I_{\rm C} = 3A, I_{\rm B1} = 0.3A, I_{\rm B2} = -0.3A,$		0.5		μs
Storage time		t _{stg}			1.5		μs
Fall time		t _f	$V_{CC} = 50V$		0.1		μs

*hFE2 Rank classification

Rank	Q	Р		
h _{FE2}	90 to 180	130 to 260		

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





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