

2SD1271, 2SD1271A

Silicon NPN epitaxial planar type

For power switching

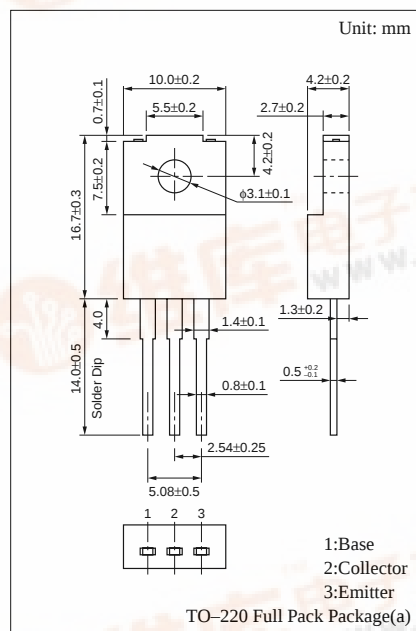
Complementary to 2SB946 and 2SB946A

■ Features

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

■ Absolute Maximum Ratings (T_C=25°C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SD1271	V_{CBO}	130	V
	2SD1271A		150	
Collector to emitter voltage	2SD1271	V_{CEO}	80	V
	2SD1271A		100	
Emitter to base voltage		V_{EBO}	7	V
Peak collector current		I_{CP}	15	A
Collector current		I_C	7	A
Collector power dissipation	$T_C=25^{\circ}C$	P_C	40	W
	$T_a=25^{\circ}C$		2	
Junction temperature		T_j	150	$^{\circ}C$
Storage temperature		T_{stg}	-55 to +150	$^{\circ}C$



■ Electrical Characteristics (T_C=25°C)

Parameter		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	μA
Collector to emitter voltage	2SD1271	V_{CEO}	$I_C = 10mA, I_B = 0$	80			V
	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		$V_{CE(sat)}$	$I_C = 5A, I_B = 0.25A$			0.5	V
Base to emitter saturation voltage		$V_{BE(sat)}$	$I_C = 5A, I_B = 0.25A$			1.5	V
Transition frequency		f_T	$V_{CE} = 10V, I_C = 0.5A, f = 10MHz$		30		MHz
Turn-on time		t_{on}	$I_C = 3A, I_{B1} = 0.3A, I_{B2} = -0.3A, V_{CC} = 50V$		0.5		μs
Storage time		t_{stg}			1.5		μs
Fall time		t_f			0.1		μs

* Rank Classification

Rank	Q	P
1 to 90	90 to 180	130 to 260



