Silicon NPN Power Transistors 2SD1271A

DESCRIPTION

·With TO-220C package
·Low collector saturation voltage
·Good linearity of h_{FE}
·Large collector current I_C

APPLICATIONS

·For power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

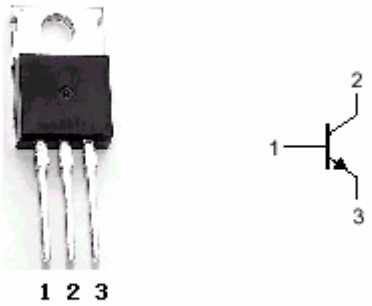


Fig.1 simplified outline (TO-220C) and symbol

ABSOLUTE MAXIMUM RATINGS AT Ta=25□

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		7	A
I_{CM}	Collector current-peak		15	A
P_C	Collector power dissipation	T_C=25□	50	w
		T_a=25□	2	
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-55~150	□

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=10mA , I_B=0	100			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=5A ;I_B=0.25A			0.5	V
V_{BEsat}	Base-emitter saturation voltage	I_C=5A ;I_B=0.25A			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=100V; I_E=0			10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			50	μA
h_{FE-1}	DC current gain	I_C=0.1A ; V_{CE}=2V	45			
h_{FE-2}	DC current gain	I_C=3A ; V_{CE}=2V	60		260	
f_T	Transition frequency	I_C=0.5A ; V_{CE}=10V		30		MHz
Switching times						
t_{on}	Turn-on time	I_C=3A ;I_{B1}=-I_{B2}=0.3A V_{CC}=50V		0.5		μs
t_s	Storage time			1.5		μs
t_f	Fall time			0.1		μs

◆ **h_{FE-2} Classifications**

R	Q	P
60-120	90-180	130-260

PACKAGE OUTLINE

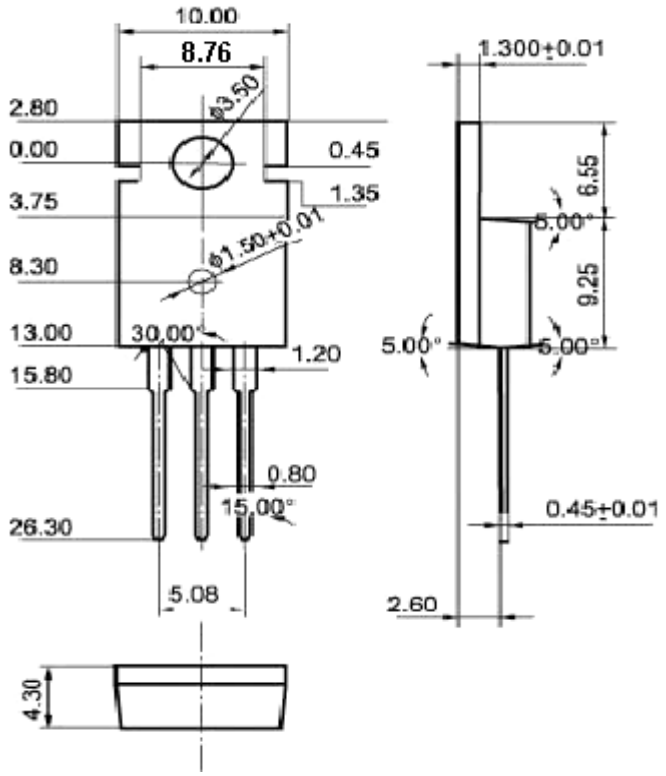


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)