Silicon NPN Power Transistors 2SD613

DESCRIPTION

- With TO-220C package
- Complement to type 2SB633
- High breakdown voltage :V_{CEO}=85V
- High current 6A

APPLICATIONS

- Recommend for 25-35W high fidelity audio frequency amplifier output stage

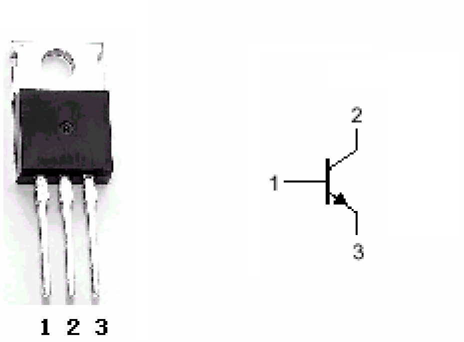

Fig.1 simplified outline (TO-220C) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings(Tc=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	85	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		6	A
I_{CM}	Collector current-peak		10	A
P_C	Collector power dissipation	T_C=25℃	40	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=50mA; $R_{BE}=\infty$	85			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=5mA; I_E=0	100			V
$V_{(BR)EBO}$	Emitter-base breakdown votage	I_E=5mA; I_C=0	6			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=4A;I_B=0.4 A			2.0	V
V_{BE}	Base-emitter voltage	I_C=1A ; V_{CE}=5V			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=40V; I_E=0			0.1	mA
I_{EBO}	Emitter cut-off current	V_{EB}=4V; I_C=0			0.1	mA
h_{FE-1}	DC current gain	I_C=1A ; V_{CE}=5V	40		320	
h_{FE-2}	DC current gain	I_C=3A ; V_{CE}=5V	20			
f_T	Transition frequency	I_C=1A ; V_{CE}=5V		15		MHz
C_{OB}	Output capacitance	I_E=0; V_{CB}=10V;f=1MHz		110		pF

◆ h_{FE-1} classifications

C	D	E	F
40-80	60-120	100-200	160-320

PACKAGE OUTLINE

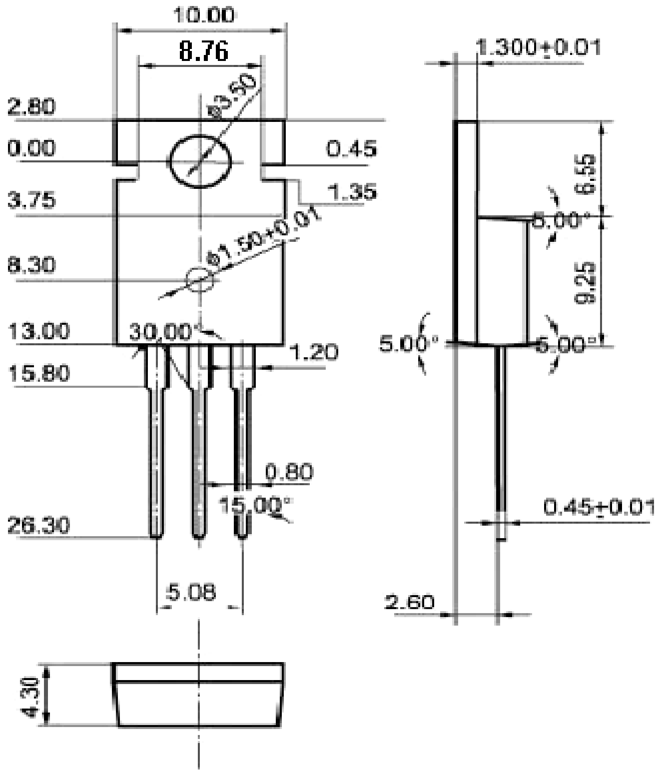

Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)