

Silicon NPN Power Transistors

2SD2222

DESCRIPTION

- With TO-3PL package
- Complement to type 2SB1470
- High forward current transfer ratio h_{FE}
- Low saturation voltage $V_{CE(sat)}$
- DARLINGTON

APPLICATIONS

- For power amplification

PINNING

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

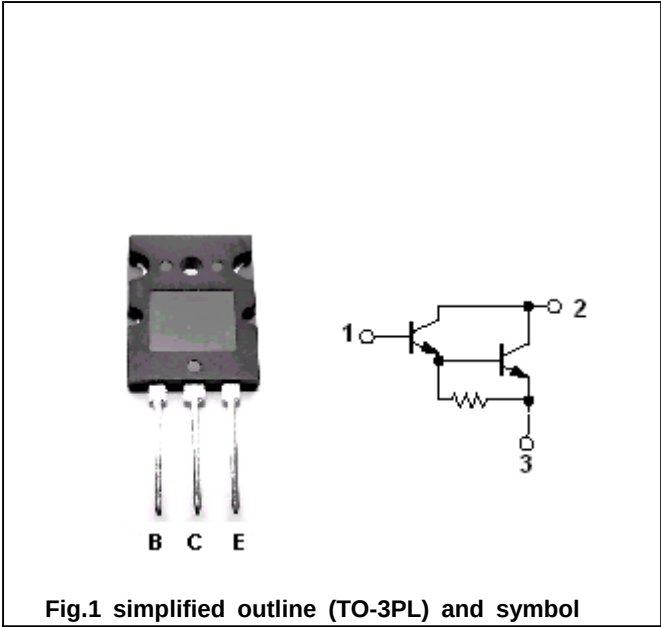


Fig.1 simplified outline (TO-3PL) and symbol

Absolute maximum ratings($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	160	V
V_{CEO}	Collector-emitter voltage	Open base	160	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		8	A
I_{CM}	Collector current-peak		15	A
P_C	Collector power dissipation	$T_C=25^{\circ}\text{C}$	120	W
		$T_a=25^{\circ}\text{C}$	3.5	
T_j	Junction temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-55~150	$^{\circ}\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter breakdown voltage	I _C =30mA ; I _B =0	160			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =7A ; I _B =7mA			3.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =7A ; I _B =7mA			3.0	V
I _{CBO}	Collector cut-off current	V _{CB} =160V; I _E =0			100	μA
I _{CEO}	Collector cut-off current	V _{CE} =160V; I _B =0			100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			100	μA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =5V	1000			
h _{FE-2}	DC current gain	I _C =7A ; V _{CE} =5V	3500		20000	
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V; f=1MHz		20		MHz

Switching times

t _{on}	Turn-on time	I _C =7A ; I _{B1} =-I _{B2} =7mA V _{CC} =50V		2.0		μs
t _s	Storage time			6.0		μs
t _f	Fall time			1.2		μs

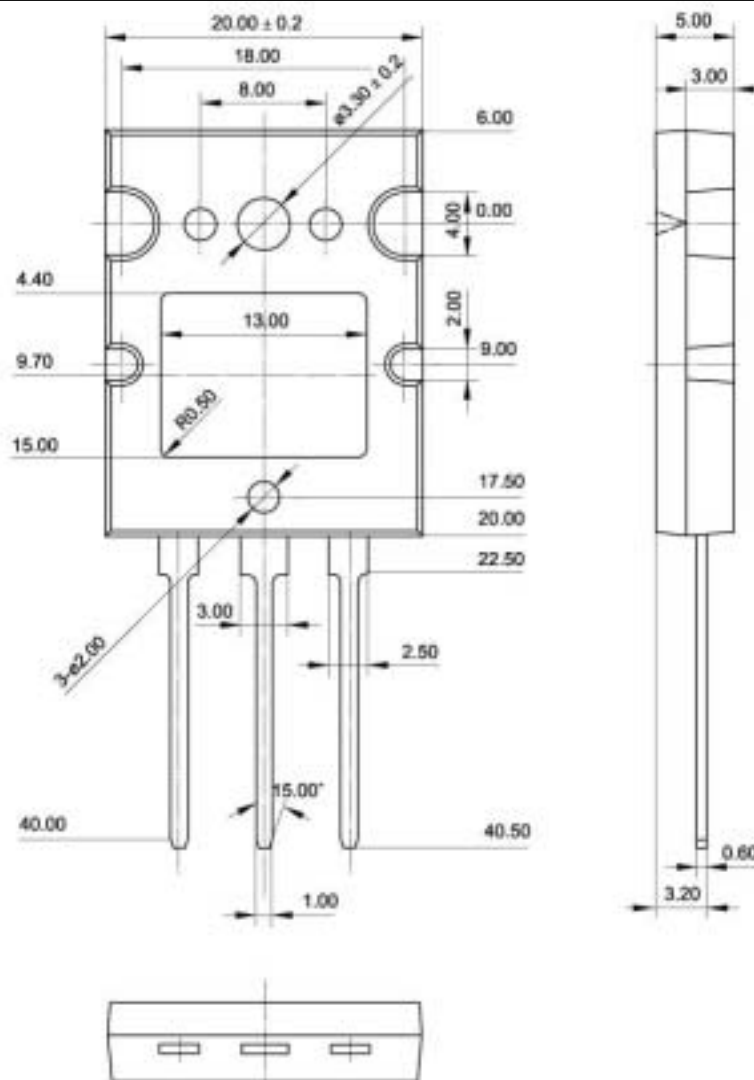
◆ h_{FE-2} classifications

Q	P
3500-10000	7000-20000

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.50 mm)