

Silicon NPN Power Transistors

2SD1313

DESCRIPTION

- With TO-3PL package
- High power dissipation
- High collector current
- High speed switching
- Low saturation voltage

APPLICATIONS

- High power amplifier applications
- High power switching applications

PINNING

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

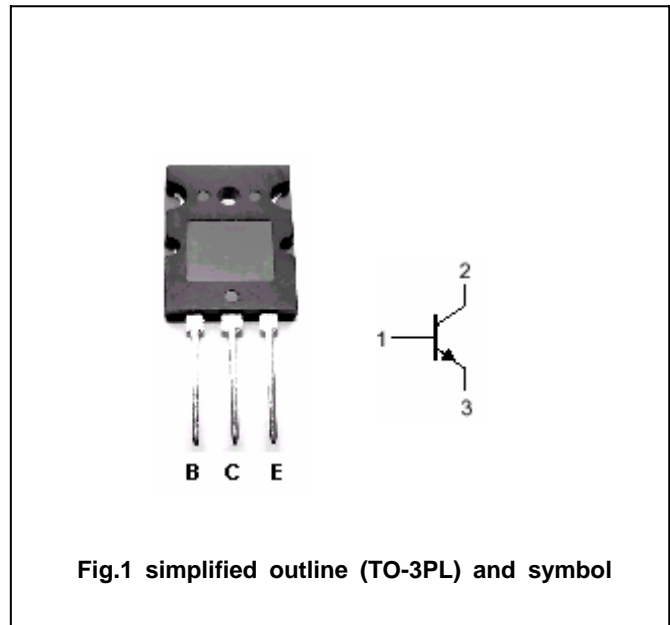


Fig.1 simplified outline (TO-3PL) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	800	V
V_{CEO}	Collector-emitter voltage	Open base	350	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		25	A
I_{CM}	Collector current-peak		35	A
I_B	Base current		10	A
I_{BM}	Base current-peak		15	A
P_C	Collector power dissipation	$T_C=25^\circ C$	200	W
T_j	Junction temperature		150	$^\circ C$
T_{stg}	Storage temperature		-55~150	$^\circ C$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA ; I _B =0	350			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =15A ; I _B =3A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =15A ; I _B =3A			1.7	V
I _{CBO}	Collector cut-off current	V _{CB} =800V; I _E =0			1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			1	mA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =5V	15			
h _{FE-2}	DC current gain	I _C =25A ; V _{CE} =5V	6			
f _T	Transition frequency	I _C =1A ; V _{CE} =10V		6		MHz
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =50V, f=1MHz		170		pF

Switching times

t _{on}	Turn-on time	I _C =15A ; I _{B1} =-I _{B2} =3A V _{CC} ≈200V, R _L =13.3 Ω		0.8		μ s
t _{stg}	Storage time			3.0		μ s
t _f	Fall time			0.5		μ s

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PACKAGE OUTLINE

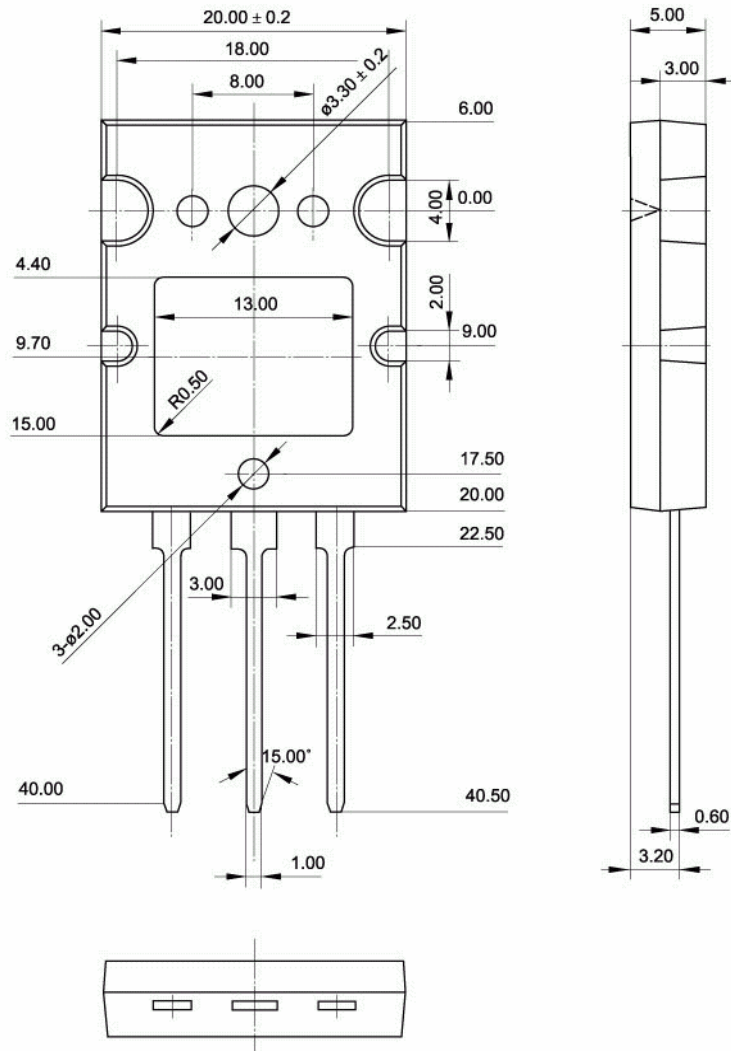


Fig.2 Outline dimensions (unindicated tolerance: ± 0.50 mm)