

Silicon NPN Power Transistors

BUS13A

DESCRIPTION

- With TO-3 package
- High voltage ,high speed

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor controls

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

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

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1000	V
V_{CEO}	Collector-emitter voltage	Open base	450	V
V_{EBO}	Emitter-base voltage	Open collector	9	V
I_C	Collector current		15	A
I_{CM}	Collector current-Peak		30	A
I_B	Base current		6	A
I_{BM}	Base current-Peak		9	A
P_T	Total power dissipation	$T_{mb} = 25^\circ\text{C}$	175	W
T_j	Junction temperature		200	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-mb}$	Thermal resistance from junction to mounting base	1.0	$^\circ\text{C/W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A ; I _B =0; L=25mH	450			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =8A; I _B =1.6A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =8A; I _B =1.6A			1.6	V
I _{CES}	Collector cut-off current	V _{CE} =RatedBV _{CEO} ; V _{BE} =0 T _C =125°C			1 4	mA
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			10	mA
h _{FE}	DC current gain	I _C =1A ; V _{CE} =5V	15		50	

Switching times

t _{on}	Turn-on time	I _C =8A; I _{B1} =- I _{B2} =1.6A			1.0	μ s
t _s	Storage time				4.0	μ s
t _f	Fall time				0.8	μ s

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PACKAGE OUTLINE

