

Silicon NPN Power Transistors

2N3442

DESCRIPTION

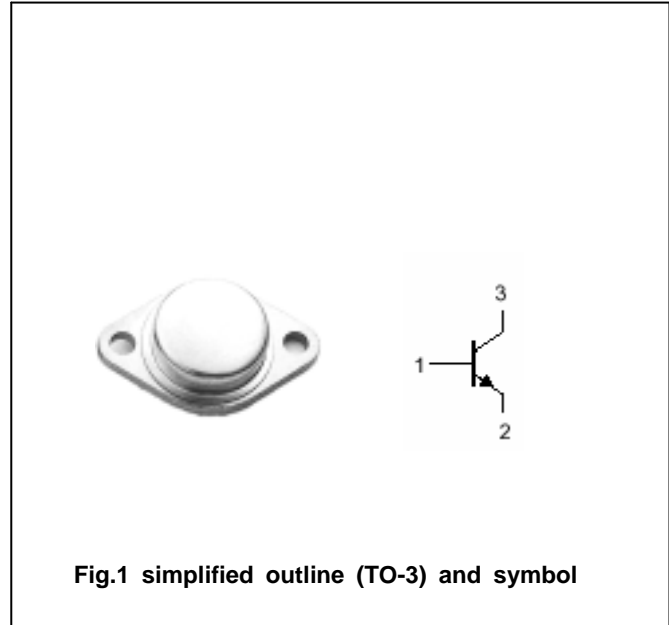
- With TO-3 package
- Excellent safe operating area

APPLICATIONS

- For industrial and commercial equipment including high fidelity audio amplifiers, series and shunt regulators and power switches applications

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings($T_a =$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	160	V
V_{CEO}	Collector-emitter voltage	Open base	140	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		10	A
I_{CM}	Collector current-peak		15	A
P_C	Collector power dissipation	$T_C=25$	117	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.5	/W

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CHARACTERISTICS

 $T_j=25$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.2A ; I_B=0$	140			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=10A ; I_B=2A$			5.0	V
V_{BE}	Base-emitter on voltage	$I_C=10A ; V_{CE}=4V$			5.7	V
I_{CEO}	Collector cut-off current	$V_{CE}=140V ; I_B=0$			200	mA
I_{CEX}	Collector cut-off current	$V_{CE}=140V ; V_{BE(off)}=1.5V$ $T_C=150$			5.0 30	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V ; I_C=0$			5.0	mA
h_{FE-1}	DC current gain	$I_C=3A ; V_{CE}=4V$	20		70	
h_{FE-2}	DC current gain	$I_C=10A ; V_{CE}=4V$	7.5			
f_T	Transition frequency	$I_C=2.0A ; V_{CE}=4V ; f_i=40kHz$	80			kHz

