

Silicon NPN Power Transistors

BU323A

DESCRIPTION

- With TO-3 package
- DARLINGTON

APPLICATIONS

- Designed for automotive ignition,switching regulator and motor control applications.

PINNING(see fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

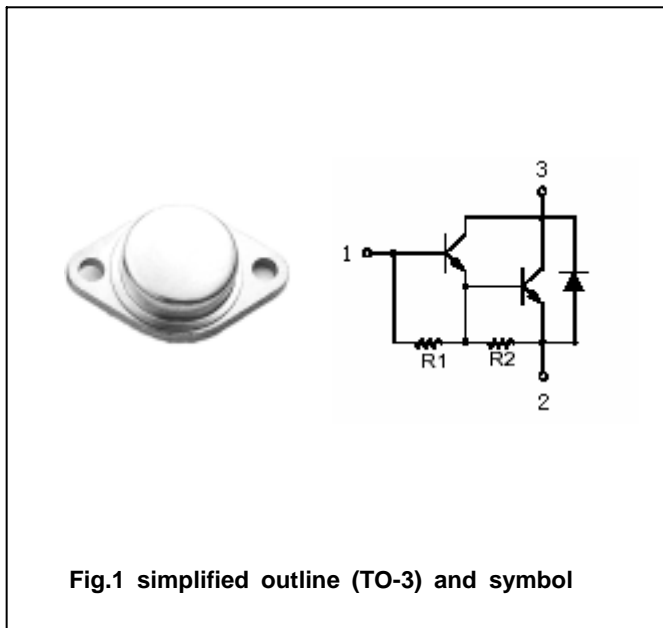


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings (Tc=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	600	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	8	V
I_C	Collector current		10	A
I_{CM}	Collector current-peak		16	A
I_B	Base current		3	A
P_T	Total power dissipation	$T_C=25$	175	W
T_j	Junction temperature		-65~200	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal resistance junction to case	1.0	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A; I _B =0; L=10mH	400			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3 A; I _B =60mA			1.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =6A; I _B =120m A			1.7	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =10A; I _B =300m A			2.7	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =6A; I _B =120m A			2.2	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =10A; I _B =300m A			3	V
I _{CER}	Collector cut-off current	V _{CE} =Rated; V _{BE} =100			1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			40	mA
I _{CBO}	Collector cut-off current	V _{CB} =Rated; I _E =0			1	mA
h _{FE-1}	DC current gain	I _C =3A ; V _{CE} =6V	300	550		
h _{FE-2}	DC current gain	I _C =6A ; V _{CE} =6V	150	350	2000	
h _{FE-3}	DC current gain	I _C =10A ; V _{CE} =6V	50	150		
V _{BE}	Base-emitter on voltage	I _C =10A ; V _{CE} =6V			2.5	V
V _F	Diode forward voltage	I _F =10A		2	3.5	V
C _{ob}	Output capacitance	V _{CB} =10V, I _E =0; f _T =100kHz		165	350	pF

Switching times

t _s	Storage time	I _C =6A ; I _{B1} =-I _{B2} =0.3A V _{CC} =12V ;		7.5	15	μs
t _f	Fall time			5.2	15	μs

