

Silicon NPN Power Transistors

BU931R BU932R

DESCRIPTION

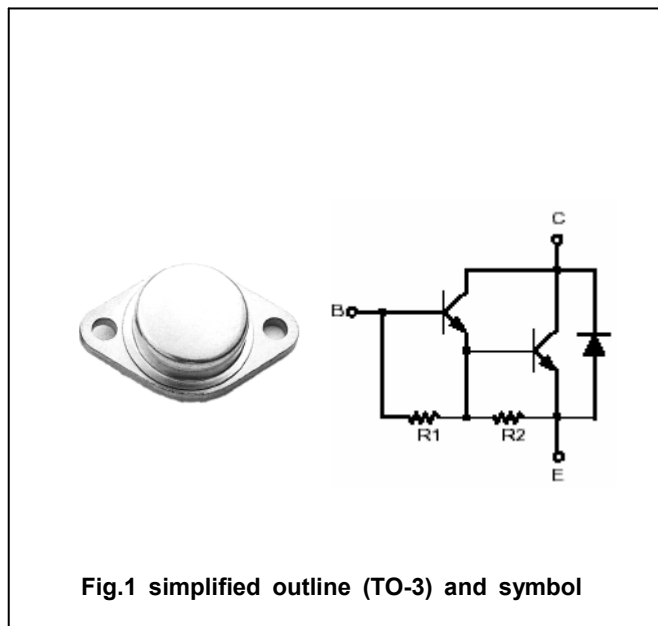
- With TO-3 package
- DARLINGTON

APPLICATIONS

- Automotive ignition applications
- Inverters circuits for motor controls

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BU931R	Open emitter	400	V
		BU932R		450	
V_{CEO}	Collector-emitter voltage	BU931R	Open base	450	V
		BU932R		500	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			15	A
I_{CM}	Collector current-peak			30	A
I_B	Base current			1	A
I_{BM}	Base current-peak			5	A
P_T	Total power dissipation		$T_C \leq 25^\circ\text{C}$	175	W
T_j	Junction temperature			200	$^\circ\text{C}$
T_{stg}	Storage temperature			-40~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter sustaining voltage	BU931R	I _C =100mA ; I _B =0	400			V
		BU932R		450			
V _{CEsat-1}	Collector-emitter saturation Voltage Only for BU931R		I _C =7A; I _B =70mA			1.6	V
V _{CEsat-2}	Collector-emitter saturation voltage	BU931R	I _C =8A; I _B =100mA			1.8	V
		BU932R	I _C =8A; I _B =150mA				
V _{CEsat-3}	Collector-emitter saturation Voltage Only for BU931R		I _C =10A; I _B =250mA			1.8	V
V _{BEsat-1}	Base-emitter saturation voltage	BU931R	I _C =8A; I _B =100mA			2.2	V
		BU932R	I _C =8A; I _B =150mA				
V _{BEsat-2}	Base-emitter saturation voltage Only for BU931R		I _C =10A; I _B =250mA			2.5	V
I _{CEO}	Collector cut-off current	BU931R	V _{CE} =400V ; I _B =0			1.0	mA
		BU932R	V _{CE} =450V ; I _B =0				
I _{CES}	Collector cut-off current	BU931R	V _{CE} =400V ; V _{BE} =0 T _C =125□			1.0 5.0	mA
		BU932R	V _{CE} =450V ; V _{BE} =0 T _C =125□			1.0 5.0	
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			50	mA
h _{FE}	DC current gain		I _C =5A ; V _{CE} =10V	300			
V _F	Diode forward voltage		I _F =10A			2.8	V

Switching times

t _s	Storage time	I _C =7A ; I _B =70mA ; V _{BE} =0; R _{BE} =47Ω V _{CC} =12V, V _{clamp} =300V; L=7mH		15		μs
t _f	Fall time			0.5		μs

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PACKAGE OUTLINE

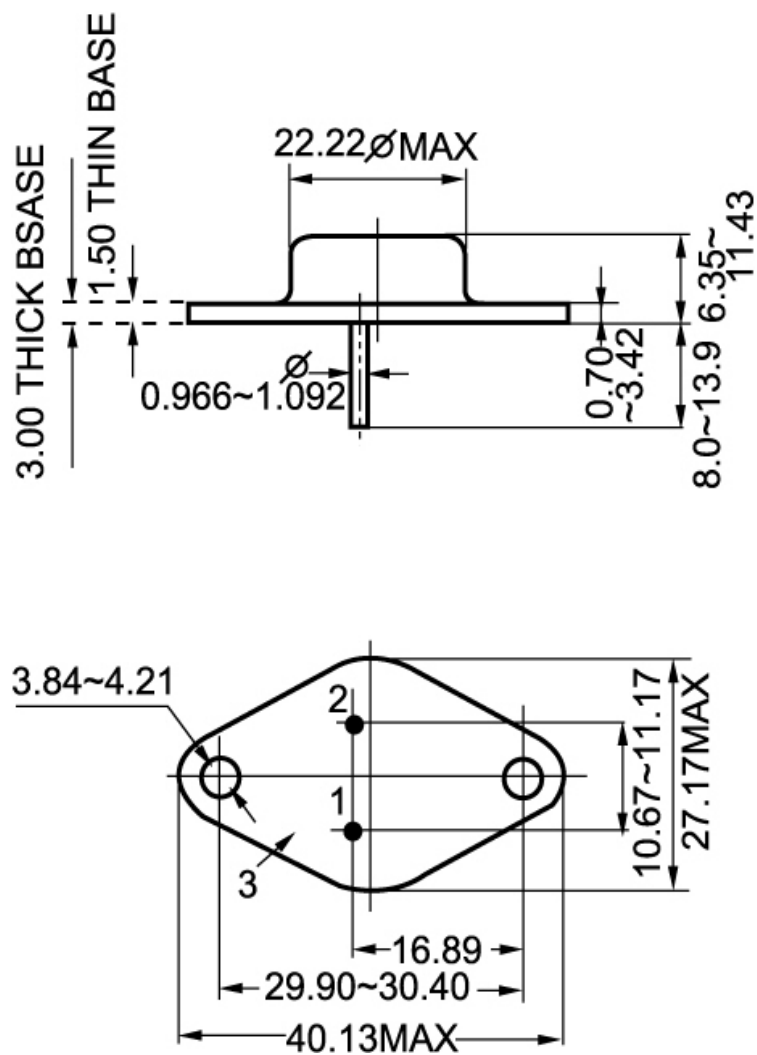


Fig.2 Outline dimensions