

Silicon NPN Power Transistors

BUL310FP

DESCRIPTION

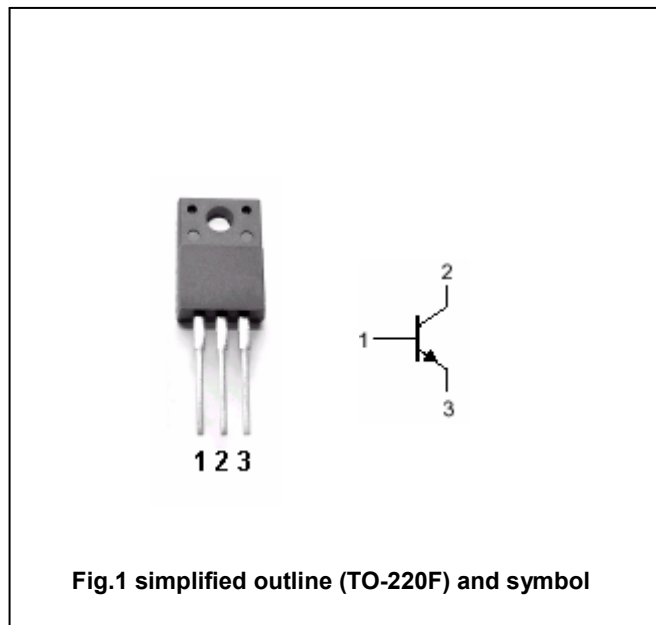
- With TO-220F package
- High voltage,high speed
- Wide area of safe operation

APPLICATIONS

- Electronic ballasts for fluorescent lighting
- Switch mode power supplies
- Flyback and forward single transistor low power converters

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1000	V
V_{CEO}	Collector-emitter voltage	Open base	500	V
V_{EBO}	Emitter-base voltage	Open collector	9	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-Peak	$t_p < 5\text{ms}$	10	A
I_B	Base current (DC)		3	A
I_{BM}	Base current-Peak	$t_p < 5\text{ms}$	4	A
P_{tot}	Total power dissipation	$T_C=25^\circ\text{C}$	36	W
T_j	Maximum operating junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-case}$	Thermal resistance junction to case	3.5	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =100mA ; I _B =0; L=25mH	500			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10mA ; I _C =0	9			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =1A; I _B =0.2A			0.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =2A ; I _B =0.4A			0.7	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =3A ; I _B =0.6A			1.1	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =1A; I _B =0.2A			1.0	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =2A ; I _B =0.4A			1.1	V
V _{BEsat-3}	Base-emitter saturation voltage	I _C =3A ; I _B =0.6A			1.2	V
I _{CES}	Collector cut-off current	V _{CE} =1000V; V _{BE} =0 T _C =125°C			100 500	μA
I _{CEO}	Collector cut-off current	V _{CE} =400V; I _B =0			250	μA
h _{FE-1}	DC current gain	I _C =10mA ; V _{CE} =5V	10			
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =2.5V		10		

Switching times inductive load

t _s	Storage time	I _C =2A ; V _{CL} =250V I _{B1} =0.4A; V _{BE(off)} =-5V L=200μH; R _{BB} =0Ω			1.9	μs
t _f	Fall time				0.16	μs

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PACKAGE OUTLINE

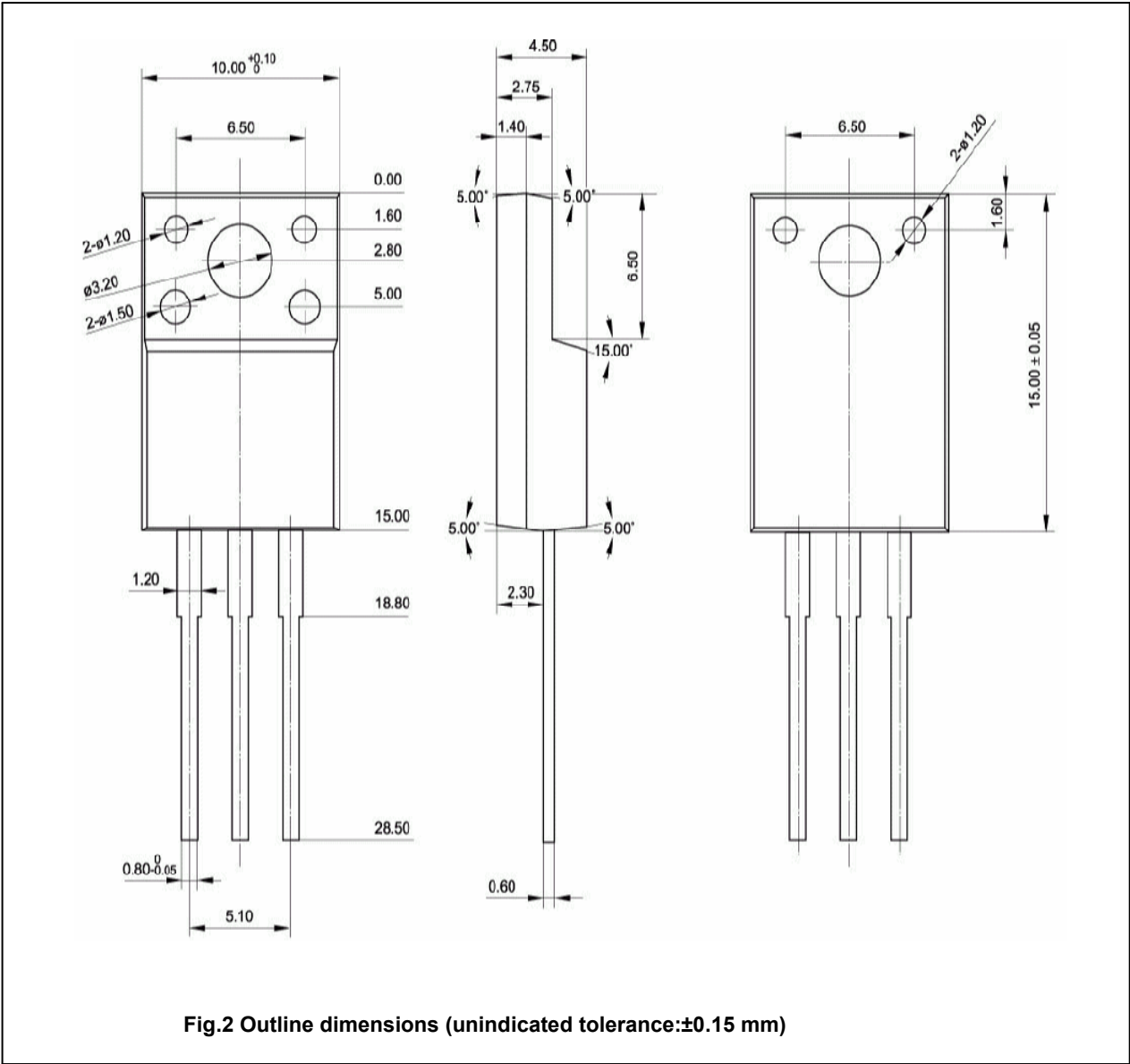


Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)