

Silicon NPN Power Transistors

2N5190 2N5191 2N5192

DESCRIPTION

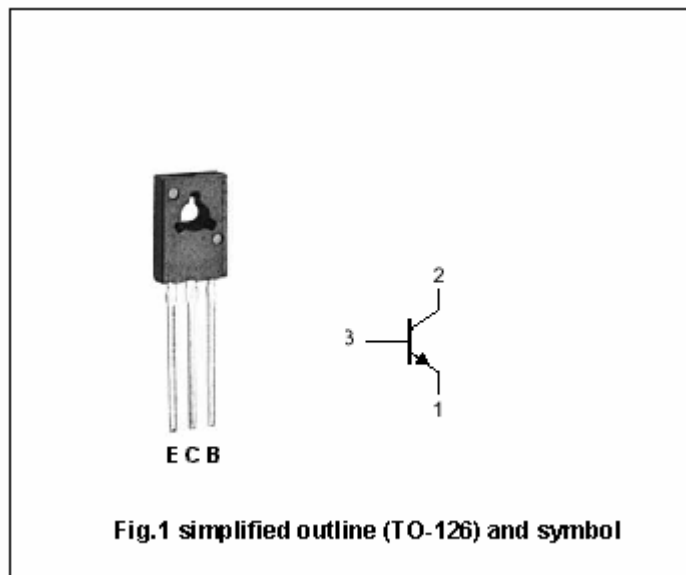
- With TO-126 package
- Complement to type 2N5193/5194/5195
- Excellent safe operating area

APPLICATIONS

- For use in medium power linear and switching applications

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5190	40	V
		2N5191	60	
		2N5192	80	
V_{CEO}	Collector-emitter voltage	2N5190	40	V
		2N5191	60	
		2N5192	80	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		4	A
I_{CM}	Collector current-Peak		7	A
I_B	Base current		1	A
P_D	Total power dissipation	$T_C=25^\circ\text{C}$	40	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	3.12	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CE0(SUS)}	Collector-emitter sustaining voltage	2N5190	I _C =0.1A; I _B =0	40		V	
		2N5191		60			
		2N5192		80			
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =1.5A ; I _B =0.15A			0.6	V	
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =4A ; I _B =1A			1.4	V	
V _{BE}	Base-emitter on voltage	I _C =1.5A ; V _{CE} =2V			1.2	V	
I _{CEO}	Collector cut-off current	2N5190	V _{CE} =40V; I _B =0		1.0	mA	
		2N5191					V _{CE} =60V; I _B =0
		2N5192					V _{CE} =80V; I _B =0
I _{CBO}	Collector cut-off current	2N5190	V _{CB} =40V; I _E =0		0.1	mA	
		2N5191					V _{CB} =60V; I _E =0
		2N5192					V _{CB} =80V; I _E =0
I _{CEx}	Collector cut-off current	2N5190	V _{CE} =40V; V _{BE(off)} =1.5V T _C =125 °C		0.1	mA	
		2N5191			V _{CE} =60V; V _{BE(off)} =1.5V T _C =125 °C		2.0
		2N5192			V _{CE} =80V; V _{BE(off)} =1.5V T _C =125 °C		0.1
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1.0	mA	
h _{FE-1}	DC current gain	2N5190	I _C =1.5A ; V _{CE} =2V	25	100		
		2N5191					
		2N5192					20
h _{FE-2}	DC current gain	2N5190	I _C =4A ; V _{CE} =2V	10			
		2N5191					
		2N5192					7
f _T	Transition frequency	I _C =1A ; V _{CE} =10V; f=1MHz	2			MHz	

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PACKAGE OUTLINE

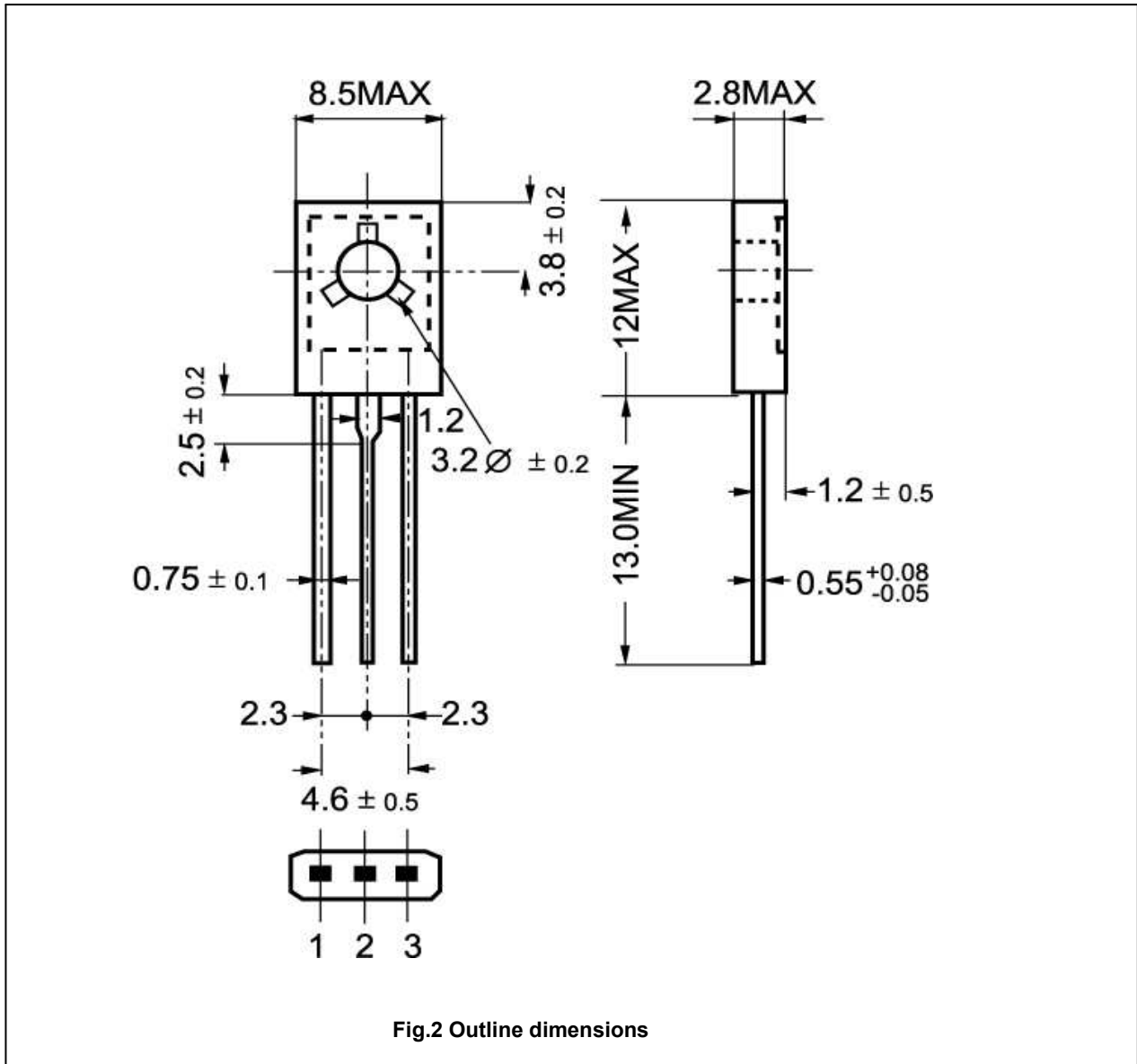


Fig.2 Outline dimensions