Silicon NPN Power Transistors 2N5190 2N5191 2N5192

DESCRIPTION

- With TO-126 package
- Complement to type 2N5193,2N5194,2N5195
- Excellent safe operating area

APPLICATIONS

- For use in medium power linear and switching applications

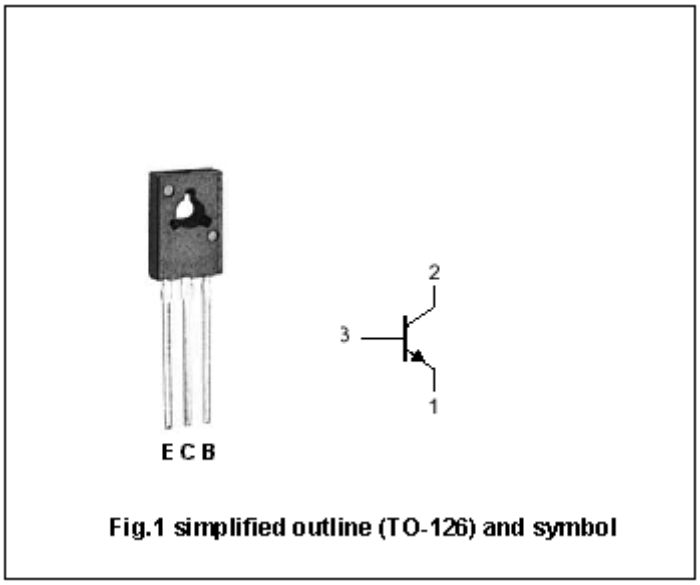

Fig.1 simplified outline (TO-126) and symbol

PINNING

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

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5190	Open emitter	40	V
		2N5191		60	
		2N5192		80	
V_{CEO}	Collector-emitter voltage	2N5190	Open base	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℃	40	W
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V_{CEO}	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}	Emitter-base 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℃			0.1 2.0	mA
		2N5191	V_{CE}=60V; $V_{BE(off)}$=1.5V T_C=125℃			0.1 2.0	
		2N5192	V_{CE}=80V; $V_{BE(off)}$=1.5V T_C=125℃			0.1 2.0	
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		80	
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

PACKAGE OUTLINE

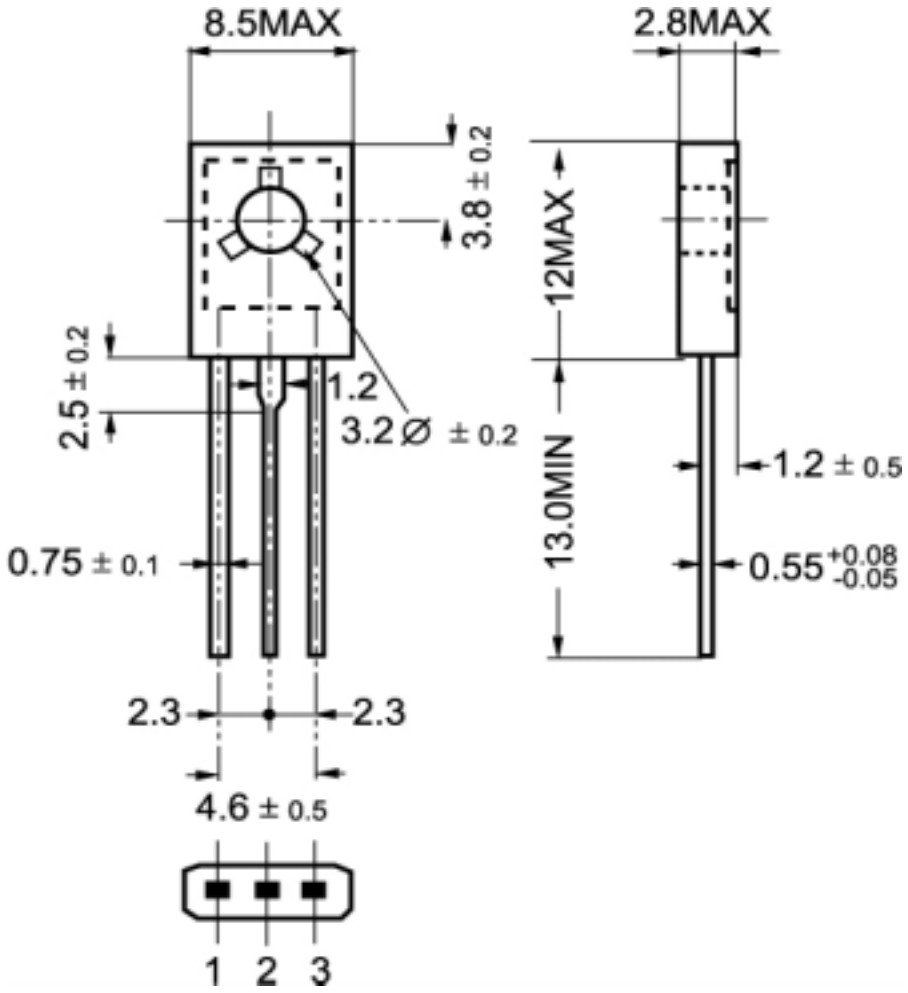

Fig.2 Outline dimensions