

Silicon NPN Power Transistors

2N6300 2N6301

DESCRIPTION

- With TO-66 package
- DARLINGTON
- Low collector saturation voltage
- Complement to type 2N6298/6299

APPLICATIONS

- General purpose power amplifier and low frequency switching applications

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

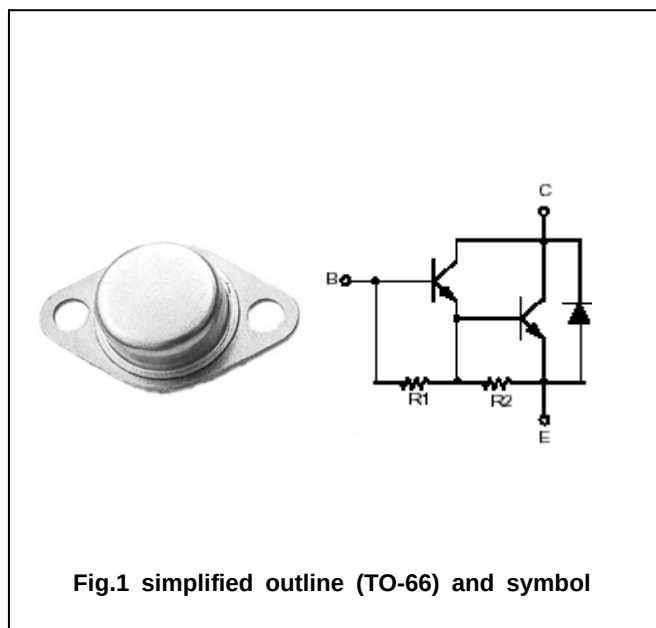


Fig.1 simplified outline (TO-66) and symbol

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6300	Open emitter	60	V
		2N6301		80	
V_{CEO}	Collector-emitter voltage	2N6300	Open base	60	V
		2N6301		80	
V_{EBO}	Emitter-base voltage		Open collector	5	V
I_C	Collector current			8	A
I_{CM}	Collector current-peak			16	A
I_B	Base current			0.12	A
P_T	Total power dissipation		$T_C=25^\circ\text{C}$	75	W
T_j	Junction temperature			200	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-C}$	Thermal resistance from junction to case	2.33	$^\circ\text{C/W}$

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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	2N6300	I _C =0.1A ; I _B =0	60			V
		2N6301		80			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =4A ; I _B =16mA			2.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =8A ; I _B =80mA			3.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =8A ; I _B =80mA			4.0	V
V _{BE}	Base -emitter on voltage		I _C =4A ; V _{CE} =3V			2.8	V
I _{CEX}	Collector cut-off current	2N6300	V _{CE} =60V ; V _{BE(off)} =1.5V T _C =150°C			0.5 5.0	mA
		2N6301	V _{CE} =80V ; V _{BE(off)} =1.5V T _C =150°C			0.5 5.0	
I _{CEO}	Collector cut-off current	2N6300	V _{CE} =30V ; I _B =0			0.5	mA
		2N6301	V _{CE} =40V ; I _B =0				
I _{EBO}	Emitter cut-off current		V _{EB} =5V ; I _C =0			2.0	mA
h _{FE-1}	DC current gain		I _C =4A ; V _{CE} =3V	750		18000	
h _{FE-2}	DC current gain		I _C =8A ; V _{CE} =3V	100			
C _{OB}	Output capacitance		I _E =0 ; V _{CB} =10V ; f=0.1MHz			200	pF

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PACKAGE OUTLINE

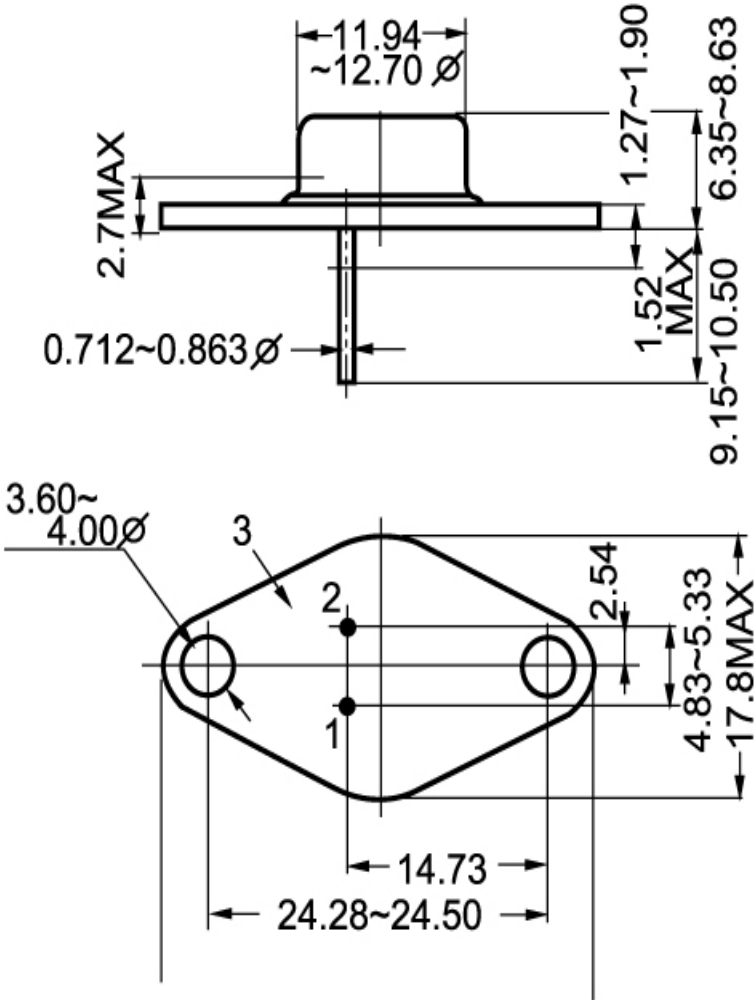


Fig.2 Outline dimensions