

Silicon NPN Power Transistors

2N5428 2N5430

DESCRIPTION

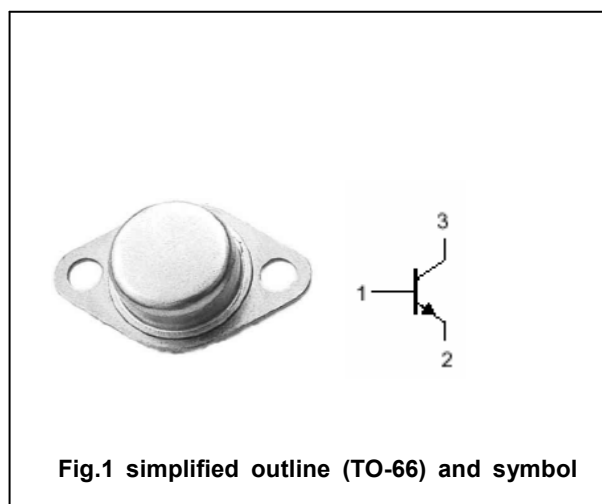
- With TO-66 package
- Low collector saturation voltage
: $V_{CE(sat)}=1.2V(Max)@I_C=7A$
- Excellent safe operating areas

APPLICATIONS

- Designed for switching and wide-band amplifier applications

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings($T_a=25^\circ$)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5428	Open emitter	80	V
		2N5430		100	
V_{CEO}	Collector-emitter voltage	2N5428	Open base	80	V
		2N5430		100	
V_{EBO}	Emitter-base voltage		Open collector	6	V
I_C	Collector current			7	A
I_B	Base current			1	A
P_D	Total power dissipation		$T_C=25^\circ$	40	W
T_j	Junction temperature			200	$^\circ$
T_{stg}	Storage temperature			-65~200	$^\circ$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal resistance junction to case	4.37	$^\circ/W$

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CHARACTERISTICS

T_j=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(SUS)}	Collector-emitter sustaining voltage	2N5428	I _C =50mA ; I _B =0	80			V
		2N5430		100			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =2A ; I _B =0.2A			0.7	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =7A ; I _B =0.7A			1.2	V
V _{BEsat-1}	Base-emitter saturation voltage		I _C =2A ; I _B =0.2A			1.2	V
V _{BEsat-2}	Base-emitter saturation voltage		I _C =7A ; I _B =0.7A			2.0	V
I _{CEX}	Collector cut-off current	2N5428	V _{CE} =75V; V _{BE(off)} =1.5V T _C =150℃			0.1 1.0	mA
		2N5430	V _{CE} =90V; V _{BE(off)} =1.5V T _C =150℃			0.1 1.0	
I _{CBO}	Collector cut-off current		V _{CB} =Rated V _{CBO} ; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current		V _{EB} =6V; I _C =0			0.1	mA
h _{FE-1}	DC current gain		I _C =0.5A ; V _{CE} =2V	60			
h _{FE-2}	DC current gain		I _C =2A ; V _{CE} =2V	60		240	
h _{FE-3}	DC current gain		I _C =5A ; V _{CE} =2V	40			
f _T	Transition frequency		I _C =0.5A ; V _{CE} =10V; f=10MHz	20			MHz

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PACKAGE OUTLINE

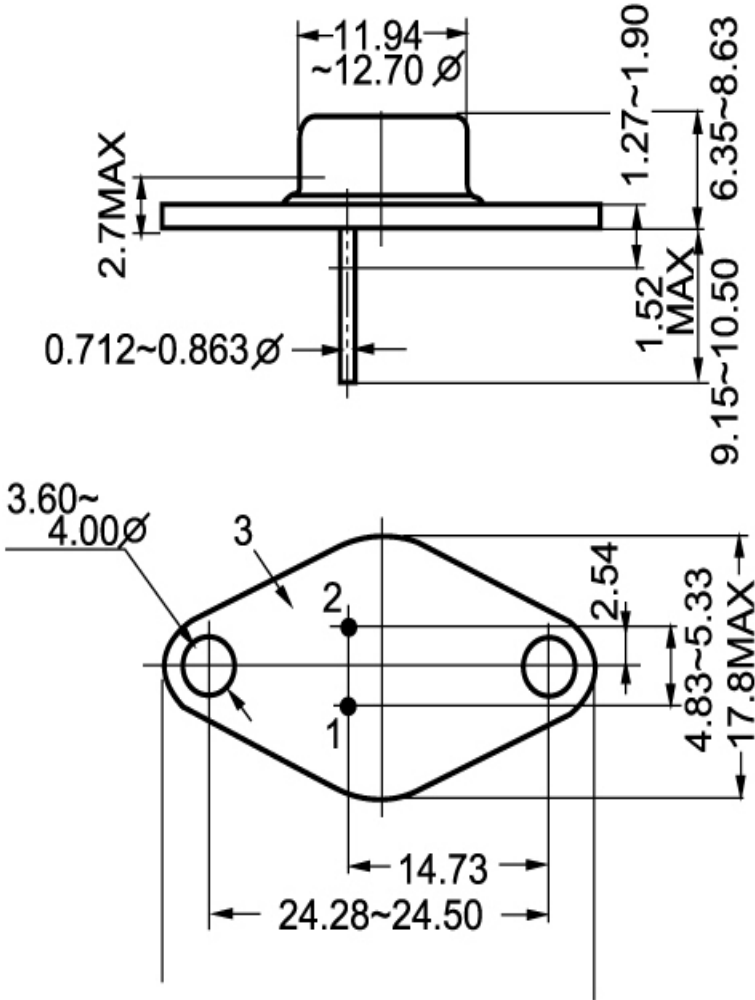


Fig.2 Outline dimensions

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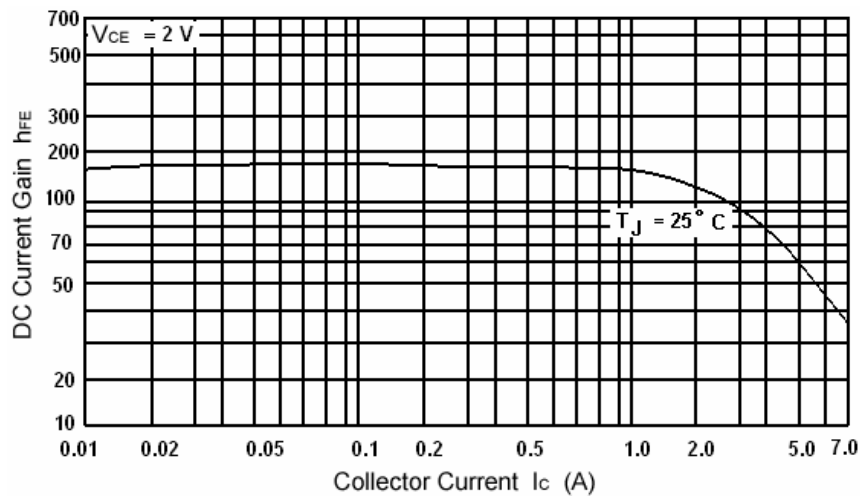


Fig.3 DC current Gain

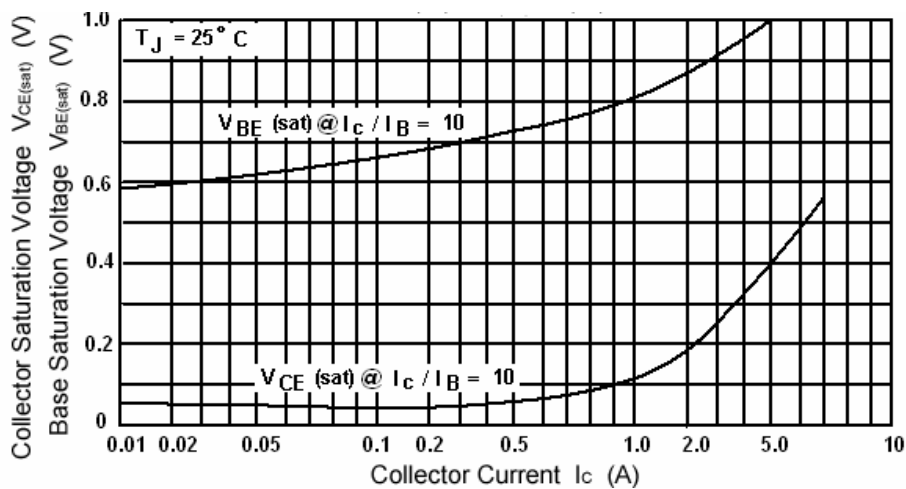
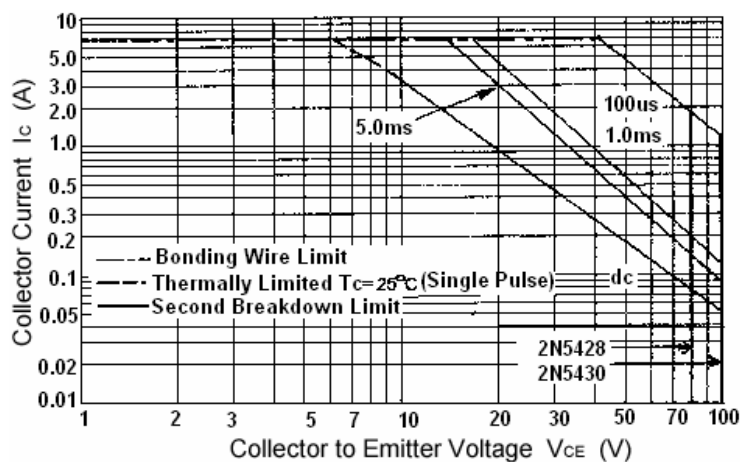
Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

Fig.5 Safe Operating Area