

SavantIC Semiconductor

Product Specification

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

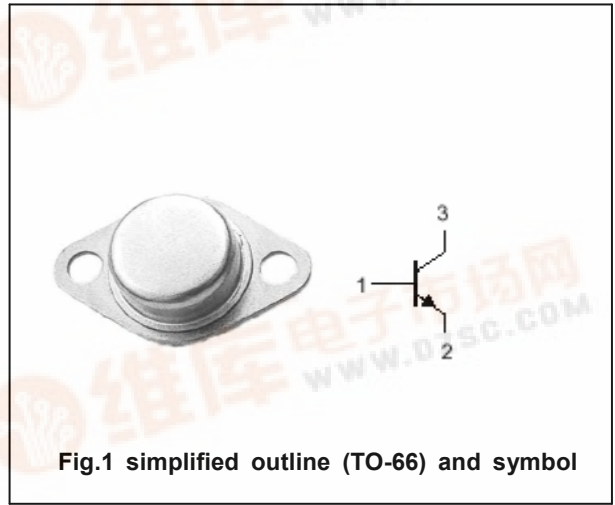


Fig.1 simplified outline (TO-66) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	2N5428	80	V
		2N5430	100	
V _{CEO}	Collector-emitter voltage	2N5428	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°C	40	W
T _j	Junction temperature		200	°C
T _{stg}	Storage temperature		-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	4.37	°C/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO(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°C			0.1 1.0	mA
		2N5430		V _{CE} =90V; V _{BE(off)} =1.5V T _C =150°C			
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

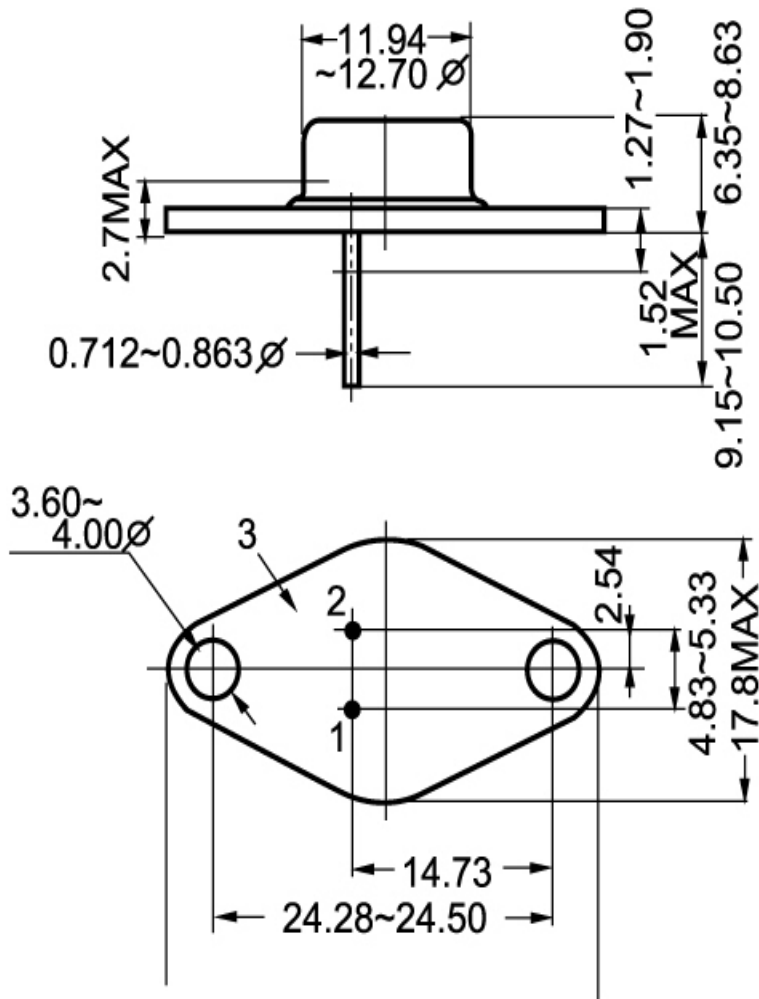


Fig.2 Outline dimensions

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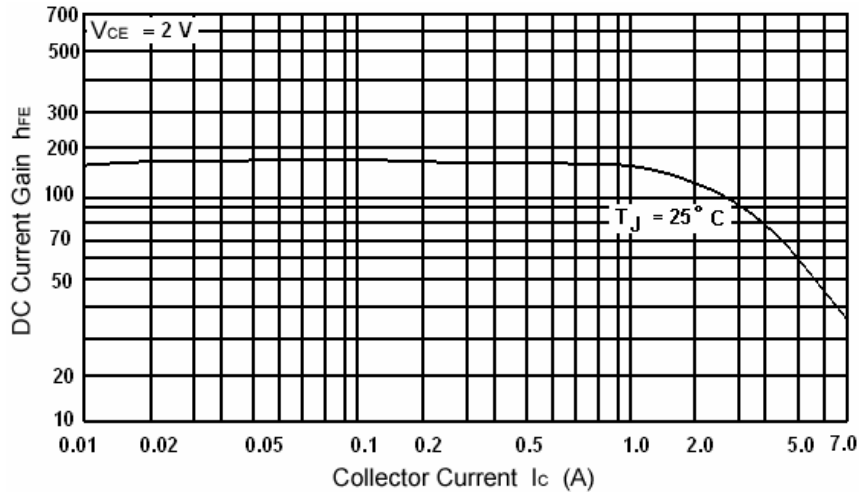


Fig.3 DC current Gain

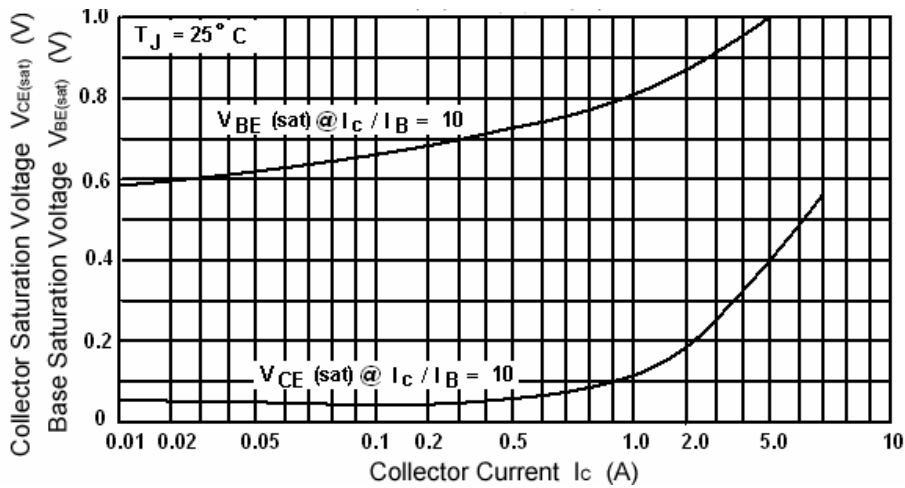


Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

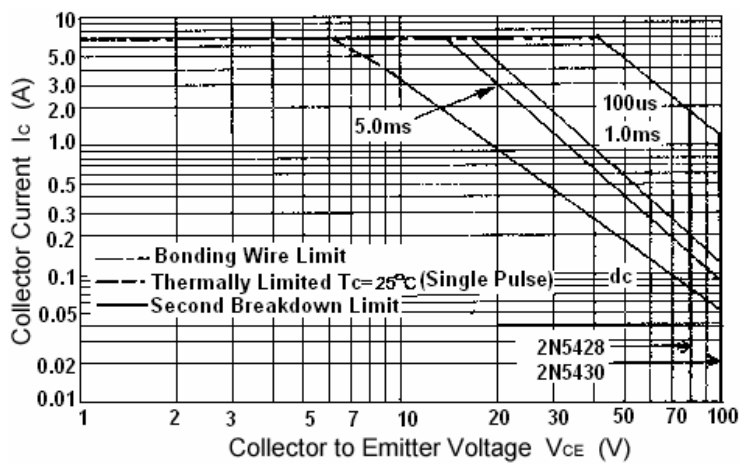


Fig.5 Safe Operating Area