

**Silicon NPN Power Transistors**

**2SD870**

**DESCRIPTION**

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- With TO-3 package
- Built-in damper diode
- High voltage ,high speed
- Low collector saturation voltage

**APPLICATIONS**

- For color TV horizontal output applications

**PINNING(see fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

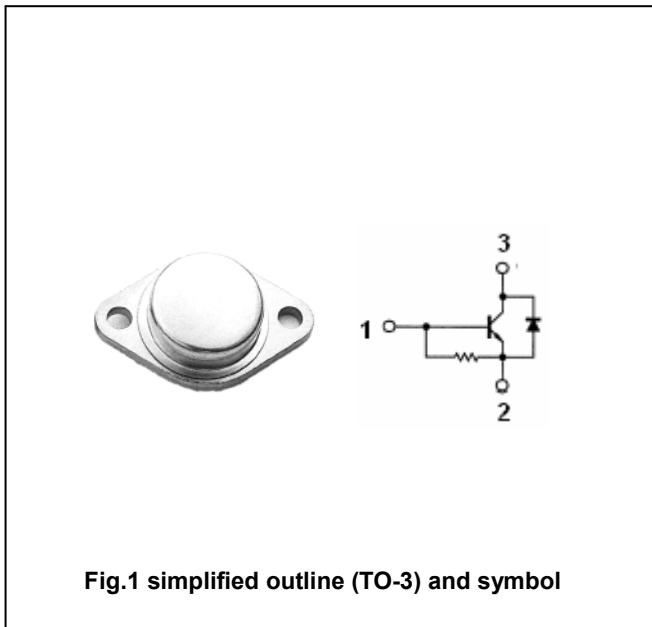


Fig.1 simplified outline (TO-3) and symbol

**Absolute maximum ratings(Ta=□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-collector voltage	Open base	600	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		5	A
I <sub>E</sub>	Emitter current		-5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25□	50	W
T <sub>j</sub>	Junction temperature		150	□
T <sub>stg</sub>	Storage temperature		-65~150	□

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## 2SD870

## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =200m A; I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4 A; I <sub>B</sub> =0.8 A			5.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4 A; I <sub>B</sub> =0.8 A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =500V; I <sub>E</sub> =0			10	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	8			
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =5A			2.0	V
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V		3		MHz
C <sub>OB</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz		165		pF
t <sub>f</sub>	Fall time	I <sub>C</sub> =4A; I <sub>B1end</sub> =0.8A			1.0	μs

PACKAGE OUTLINE

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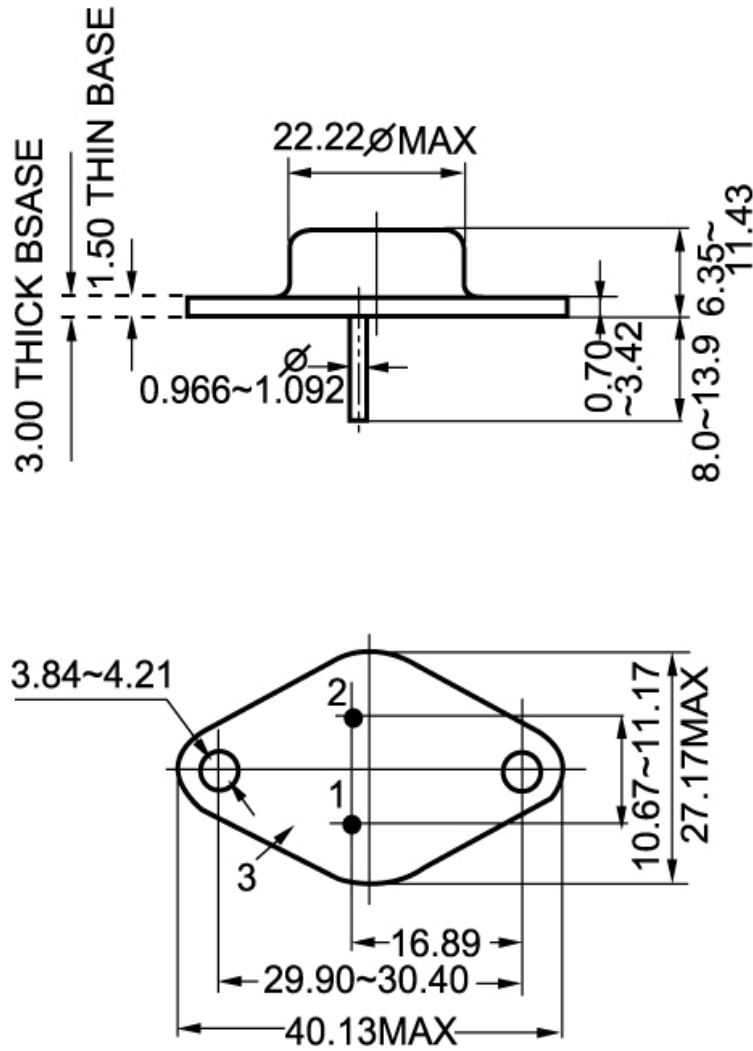


Fig.2 Outline dimensions