

**Silicon NPN Power Transistors 2N6338 2N6339 2N6340 2N6341**

**DESCRIPTION**

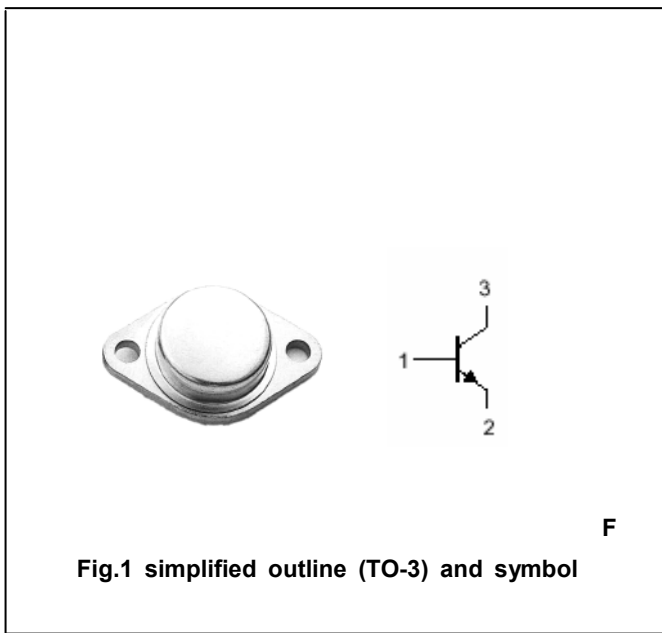
- With TO-3 package
- Fast switching times
- Low collector saturation voltage
- Complement to type 2N6436~38

**APPLICATIONS**

- For use in industrial-military power amplifier and switching circuit applications

**PINNING(see Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



**Absolute maximum ratings(Ta=□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2N6338	120	V
		2N6339	140	
		2N6340	160	
		2N6341	180	
V <sub>CEO</sub>	Collector-emitter voltage	2N6338	100	V
		2N6339	120	
		2N6340	140	
		2N6341	150	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		25	A
I <sub>CM</sub>	Collector current-peak		50	A
I <sub>BC</sub>	Base current		10	A
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25□	200	W
T <sub>j</sub>	Junction temperature		200	□
T <sub>stg</sub>	Storage temperature		-65~200	□

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	0.875	□/W

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### CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>(SUS)CEO</sub>	Collector-emitter sustaining voltage	2N6338	100			V	
		2N6339	120				
		2N6340	140				
		2N6341	150				
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A			1.0	V	
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =25A; I <sub>B</sub> =2.5A			1.8	V	
V <sub>BE sat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A			1.8	V	
V <sub>BE sat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =25A; I <sub>B</sub> =2.5A			2.5	V	
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =10A ; V <sub>CE</sub> =2V			1.8	V	
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =Rated V <sub>CEO</sub> ; V <sub>EB</sub> =1.5V T <sub>C</sub> =150°C			10 1.0	μA mA	
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =Rated V <sub>CB</sub> ; I <sub>E</sub> =0			10	μA	
I <sub>CEO</sub>	Collector cut-off current	2N6338	V <sub>CE</sub> = 50V, I <sub>B</sub> =0			50	μA
		2N6339	V <sub>CE</sub> = 60V, I <sub>B</sub> =0				
		2N6340	V <sub>CE</sub> = 70V, I <sub>B</sub> =0				
		2N6341	V <sub>CE</sub> = 75V, I <sub>B</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			100	μA	
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =2V	50				
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =2V	30		120		
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =25A ; V <sub>CE</sub> =2V	12				
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=0.1MHz			300	pF	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V; f=10MHz	40			MHz	
t <sub>r</sub>	Rise time	V <sub>CC</sub> =80V, I <sub>C</sub> =10A, I <sub>B1</sub> =1A ; V <sub>BE</sub> =1.5V			0.3	μs	
t <sub>s</sub>	Storage time	V <sub>CC</sub> =80V, I <sub>C</sub> =10A, I <sub>B1</sub> =I <sub>B2</sub> =1A			1.0	μs	
t <sub>f</sub>	Fall times				0.25	μs	

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PACKAGE OUTLINE

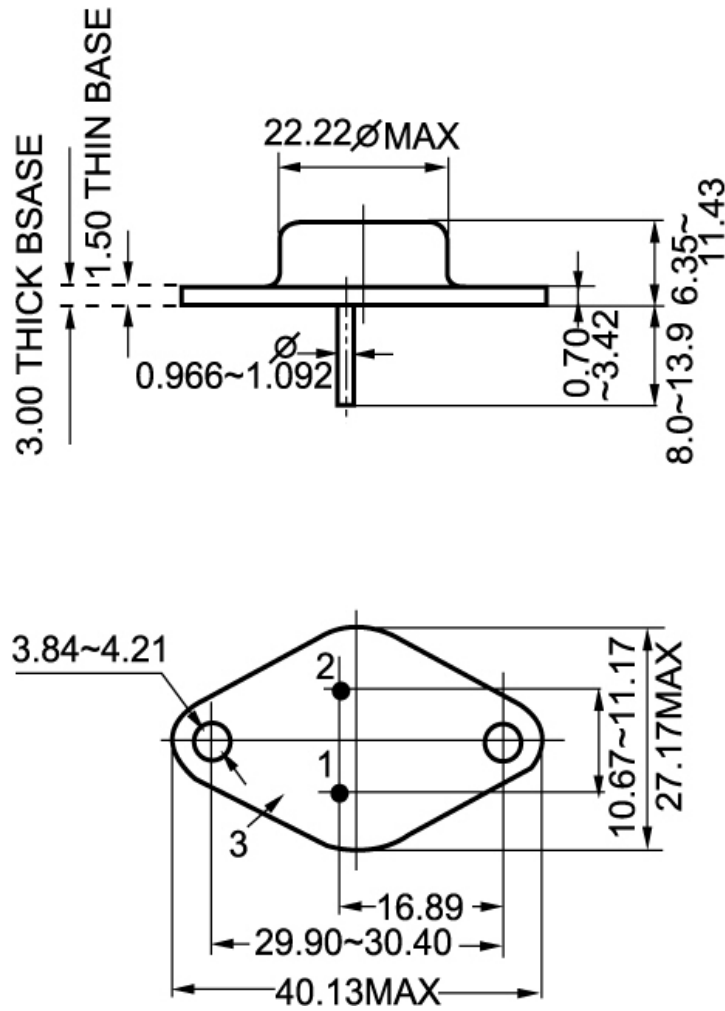


Fig.2 outline dimensions