

Silicon NPN Power Transistors

2N5239

DESCRIPTION

- With TO-3 package
- High breakdown voltage
- High power dissipation

APPLICATIONS

- Switching regulator
- Inverters
- Power amplifiers
- Deflection circuits
- High-voltage bridge amplifiers

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	300	V
V_{CEO}	Collector-emitter voltage	Open base	225	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		5	A
I_B	Base current		2	A
P_T	Total power dissipation	$T_c=25^\circ\text{C}$	100	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	1.75	$^\circ\text{C}/\text{W}$

Silicon NPN Power Transistors**2N5239****CHARACTERISTICS****T_j=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	225			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =20mA ; I _C =0	6			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =2A; I _B =0.25A			2.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =4.5A; I _B =1.125A			5.0	V
V _{BE}	Base-emitter on voltage	I _C =2A ; V _{CE} =10V			3.0	V
I _{CEV}	Collector cut-off current	V _{CE} =300V; V _{BE} =-1.5V T _C =150°C			4.0 5.0	mA
I _{CEO}	Collector cut-off current	V _{CE} =200V; I _B =0			5.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			5.0	mA
h _{FE-1}	DC current gain	I _C =0.4A ; V _{CE} =10V	20		80	
h _{FE-2}	DC current gain	I _C =2A ; V _{CE} =10V				
h _{FE-3}	DC current gain	I _C =4.5A ; V _{CE} =10V	5			
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V; f=1MHz			250	pF
f _T	Transition frequency	I _C =0.2A ; V _{CE} =10V	2			MHz

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PACKAGE OUTLINE

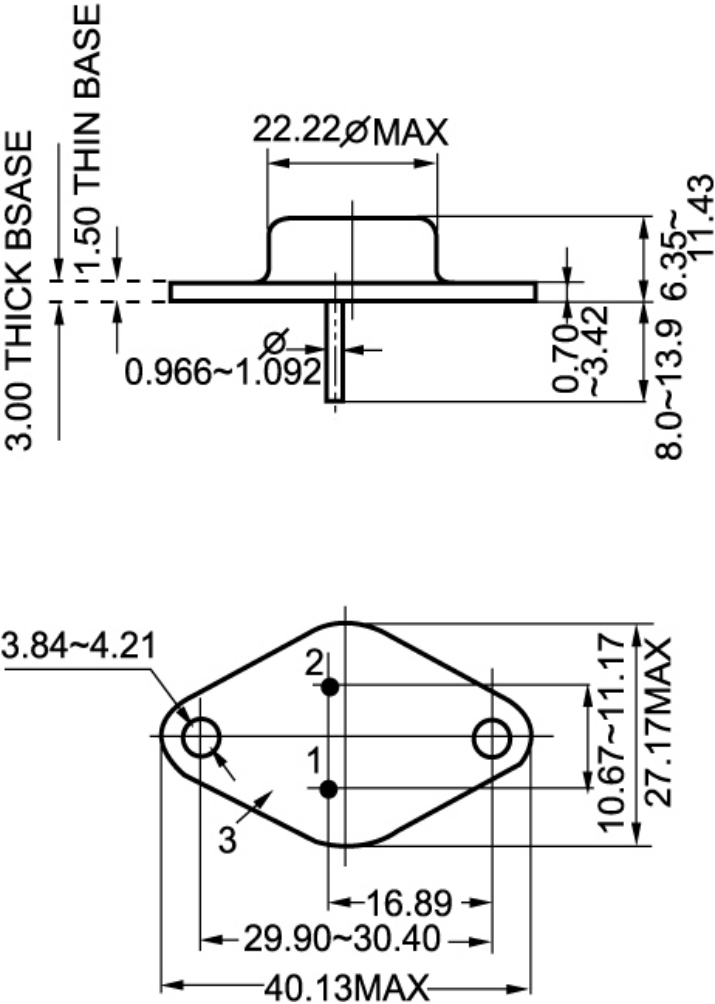


Fig.2 Outline dimensions