

Silicon NPN Power Transistors

2N5660 2N5661

DESCRIPTION

- With TO-66 package
- High breakdown voltage

APPLICATIONS

- High speed switching and linear amplifier
- High-voltage operational amplifiers
- Switching regulators ,converters
- Deflection stages and high fidelity amplifiers

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5660	250	V
		2N5661	400	
V_{CEO}	Collector-emitter voltage	2N5660	200	V
		2N5661	300	
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		2.0	A
I_B	Base current		0.5	A
P_T	Total power dissipation	$T_C=100^\circ\text{C}$	20	W
		$T_a=25^\circ\text{C}$	2	
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 junction to case	5.0	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	2N5660	I _C =10mA ; I _B =0	200			V
		2N5661		300			
V _{(BR)EBO}	Emitter-base breakdown voltage		I _E =10μA ; I _C =0	6			V
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =1A ; I _B =0.1A			0.4	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =2A ; I _B =0.4A			0.8	V
V _{BEsat-1}	Base-emitter saturation voltage		I _C =1A ; I _B =0.1A			1.2	V
V _{BEsat-2}	Base-emitter saturation voltage		I _C =2A ; I _B =0.4A			1.5	V
I _{CES}	Collector cut-off current	2N5660	V _{CE} =200V ; V _{BE(off)} =1.5V			0.2	mA
		2N5661	V _{CE} =300V ; V _{BE(off)} =1.5V				
I _{CBO}	Collector cut-off current	2N5660	V _{CB} =250V ; I _E =0			1.0	mA
		2N5661	V _{CB} =400V ; I _E =0				
h _{FE-1}	DC current gain	2N5660	I _C =50mA ; V _{CE} =2V	40			
		2N5661		25			
h _{FE-2}	DC current gain	2N5660	I _C =0.5A ; V _{CE} =5V	40		120	
		2N5661		25		75	
h _{FE-3}	DC current gain		I _C =1A ; V _{CE} =5V	15			
h _{FE-4}	DC current gain		I _C =2A ; V _{CE} =5V	5			
C _{OB}	Output capacitance		I _E =0 ; V _{CB} =10V ; f=1MHz			45	pF
t _{on}	Turn-on time	2N5660	V _{CC} =100V ; I _C =0.5A ; I _{B1} =-I _{B2} =15mA			0.25	μs
		2N5661	V _{CC} =100V ; I _C =0.5A ; I _{B1} =-I _{B2} =25mA				
t _{off}	Turn-off time	2N5660	V _{CC} =100V ; I _C =0.5A ; I _{B1} =-I _{B2} =15mA			0.85	μs
		2N5661	V _{CC} =100V ; I _C =0.5A ; I _{B1} =-I _{B2} =25mA			1.2	

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PACKAGE OUTLINE

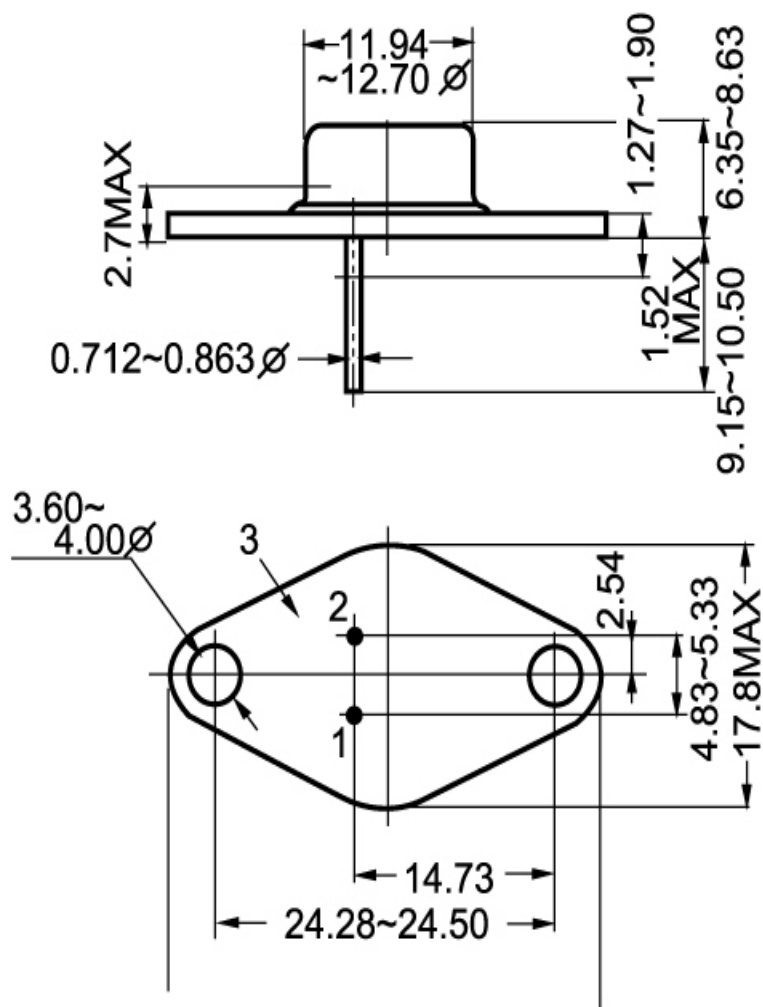


Fig.2 Outline dimensions