

Silicon NPN Power Transistors

2SC3060

DESCRIPTION

- With TO-3 package
- Ultra-fast switching
- Wide area of safe operation
- High breakdown voltage

APPLICATIONS

- Switching regulators
- Motor controls
- Ultrasonic oscillators
- Class C and D amplifiers
- Deflection circuits

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1200	V
V_{CEO}	Collector-emitter voltage	Open base	850	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		5	A
I_{CP}	Collector current-pulse	$PW \leq 25 \mu s, \text{Duty cycle} \leq 50\%$	8	A
I_B	Base current		3	A
P_C	Collector power dissipation	$T_C=25^{\circ}\text{C}$	150	W
T_j	Junction temperature		175	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-65~175	$^{\circ}\text{C}$

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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	I _C =10mA ; R _{BE} =∞	850			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA; I _E =0	1200			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA; I _C =0	7			V
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =2A; I _B =0.4A			1.5	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =2A; I _B =0.4A			2.0	V
I _{CBO}	Collector cut-off current	V _{CB} =1000V; I _E =0			100	μ A
		V _{CB} =1000V; I _E =0, T _C =100°C			1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			100	μ A
h _{FE}	DC current gain	I _C =2A ; V _{CE} =5V	10		30	
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V		15		MHz
C _{ob}	Output capacitance	I _E =0; V _{CB} =10V, f=1MHz		120		pF

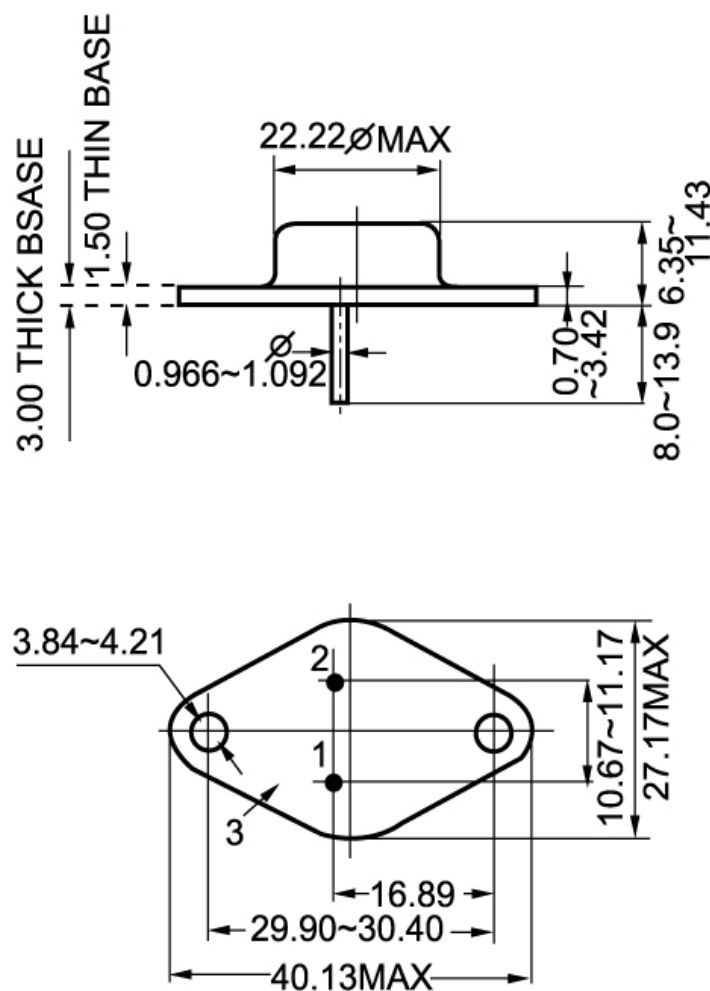
Switching times

t _r	Rise time	V _{CC} =400V; I _C =2A I _{B1} =0.2A; I _{B2} =-0.6A;			0.5	μ s
t _{stg}	Storage time				3.5	μ s
t _f	Fall time				0.3	μ s

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PACKAGE OUTLINE

Fig.2 outline dimensions (unindicated tolerance: $\pm 0.1\text{mm}$)