

Silicon NPN Power Transistors

2N6542 2N6543

DESCRIPTION

- With TO-3 package
- High voltage, high speed

APPLICATIONS

- Switching regulators
- PWM inverters and motor controls
- Solenoid and relay drivers
- Deflection circuits

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

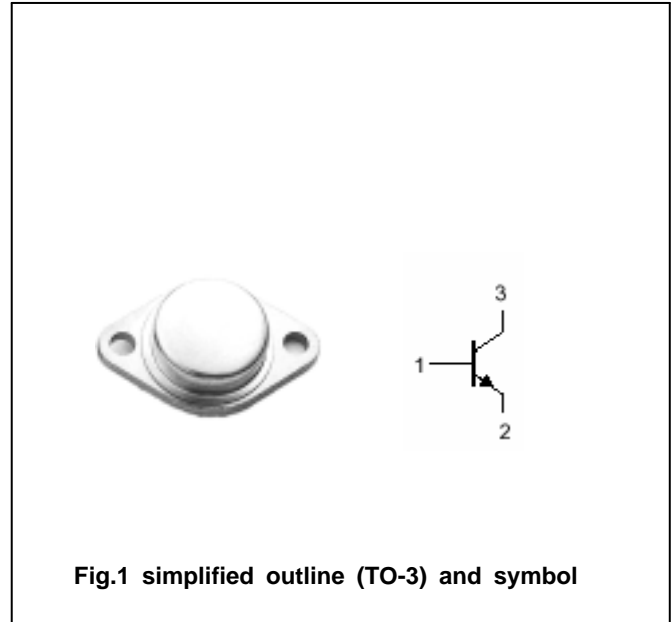


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a =$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6542	650	V
		2N6543	850	
V_{CEO}	Collector-emitter voltage	2N6542	300	V
		2N6543	400	
V_{EBO}	Emitter-base voltage	Open collector	8	V
I_C	Collector current		5	A
I_{CM}	Collector current-peak		10	A
I_B	Base current		5	A
I_E	Emitter current		10	A
I_{EM}	Emitter current-peak		20	A
P_D	Total Power Dissipation	$T_C=25$	100	W
T_j	Junction temperature		200	
T_{stg}	Storage temperature		-65~200	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N6542	I _C =0.1A ; I _B =0	300			V
		2N6543		400			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =3A; I _B =0.6A			1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =5A; I _B =1.0A			5.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =3A; I _B =0.6A			1.4	V
I _{CEV}	Collector cut-off current	2N6542	V _{CE} =650V; V _{BE(off)} =1.5V T _C =100			0.5 3.0	mA
		2N6543	V _{CE} =850V; V _{BE(off)} =1.5V T _C =100			0.5 3.0	
I _{EBO}	Emitter cut-off current		V _{EB} =8V; I _C =0			1.0	mA
h _{FE-1}	DC current gain		I _C =1.5A ; V _{CE} =2V	12		60	
h _{FE-2}	DC current gain		I _C =3A ; V _{CE} =2V	7		35	
f _T	Transistion frequency		I _C =0.2A ; V _{CE} =10V;f=1MHz	6		35	MHz

Switching times

t _d	Delay time	V _{CC} =250V; I _C =3.0A I _{B1} =-I _{B2} =0.6A;t _p =0.1ms			0.05	μs
t _r	Rise time				0.7	μs
t _{stg}	Storage time				4.0	μs
t _f	Fall time				0.8	μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance junction to case	1.75	/W

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PACKAGE OUTLINE

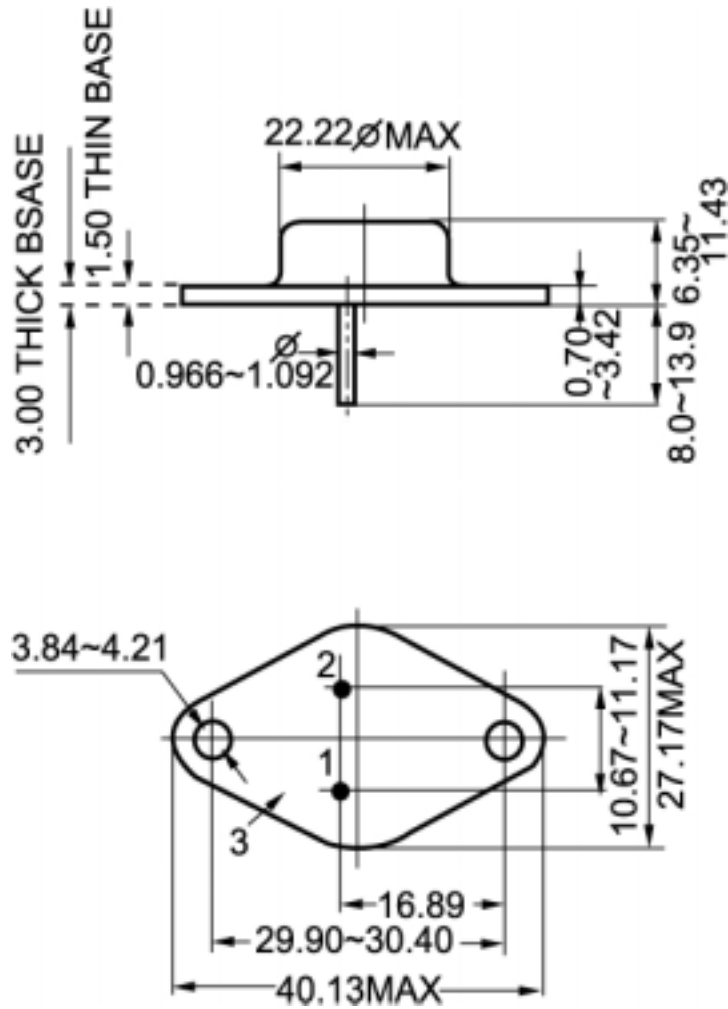


Fig.2 outline dimensions (unindicated tolerance: ± 0.10 mm)