

Silicon NPN Power Transistors

2N6546 2N6547

DESCRIPTION

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

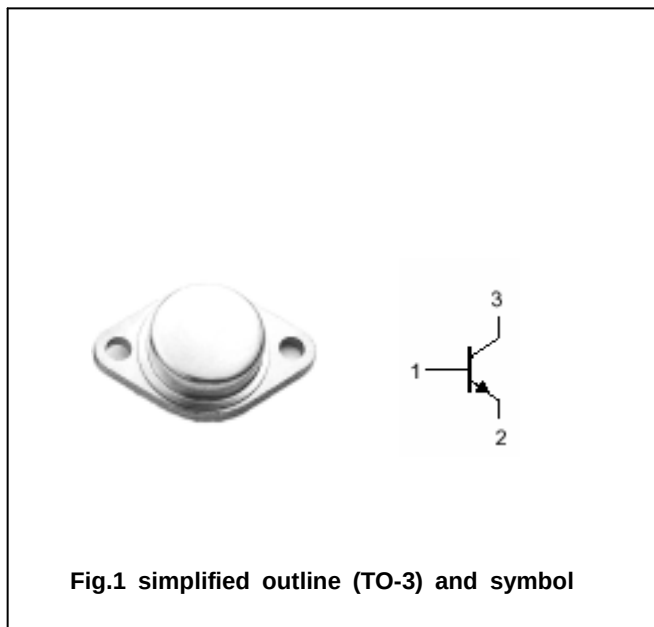
APPLICATIONS

Suited for 115 and 220 volt line operated switch-mode applications such as :

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

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N6546	Open emitter	650	V
		2N6547		850	
V_{CEO}	Collector-emitter voltage	2N6546	Open base	300	V
		2N6547		400	
V_{EBO}	Emitter-base voltage		Open collector	9	V
I_C	Collector current			15	A
I_{CM}	Collector current-peak			30	A
I_B	Base current			10	A
I_E	Emitter current			25	A
I_{EM}	Emitter current-peak			50	A
P_T	Total power dissipation		$T_c = 25^\circ\text{C}$	175	W
T_j	Junction temperature			200	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~200	$^\circ\text{C}$

Silicon NPN Power Transistors

2N6546 2N6547

CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	2N6546	I _C =100mA ; I _B =0	300			V
		2N6547		400			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =10A; I _B =2A			1.5	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =15A; I _B =3A			5.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =10A ; I _B =2A			1.6	V
I _{CEV}	Collector cut-off current	2N6546	V _{CE} =650V; V _{BE(off)} =1.5V T _C =100°C			1.0 4.0	mA
		2N6547	V _{CE} =850V ; V _{BE(off)} =1.5V T _C =100°C			1.0 4.0	mA
I _{EBO}	Emitter cut-off current		V _{EB} =9V; I _C =0			1.0	mA
h _{FE-1}	DC current gain		I _C =5A ; V _{CE} =2V	12		60	
h _{FE-2}	DC current gain		I _C =10A ; V _{CE} =2V	6		30	
f _T	Transition frequency		I _C =0.5A ; V _{CE} =10V; f=1MHz	6		35	MHz

Switching times

t _d	Delay time	I _C =10A; I _{B1} =-I _{B2} =2.0A V _{CC} =250V; t _p =0.1ms; Duty Cycle ≤ 2.0%			0.05	μs
t _r	Rise time				1.0	μs
t _{stg}	Storage time				4.0	μs
t _f	Fall time				0.8	μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance from junction to case	1.0	°C/W

Silicon NPN Power Transistors

2N6546 2N6547

PACKAGE OUTLINE

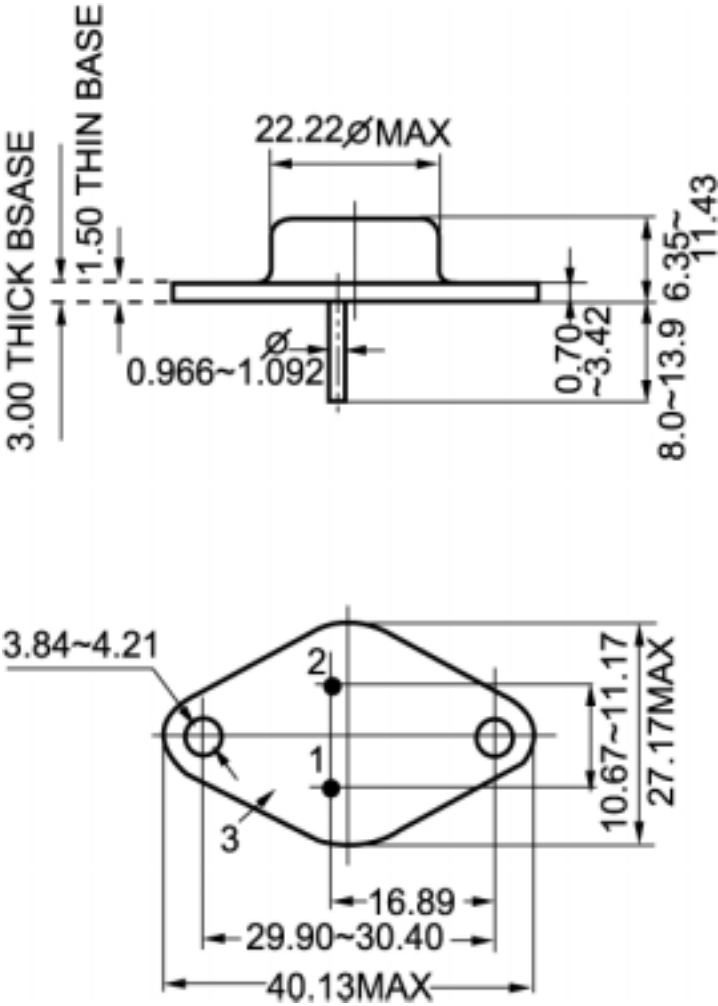


Fig.2 Outline dimensions

Silicon NPN Power Transistors

2N6546 2N6547

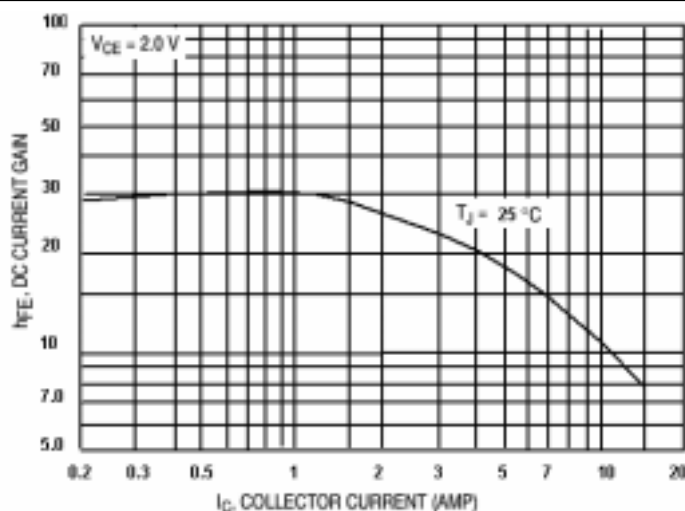


Fig.3 DC current Gain

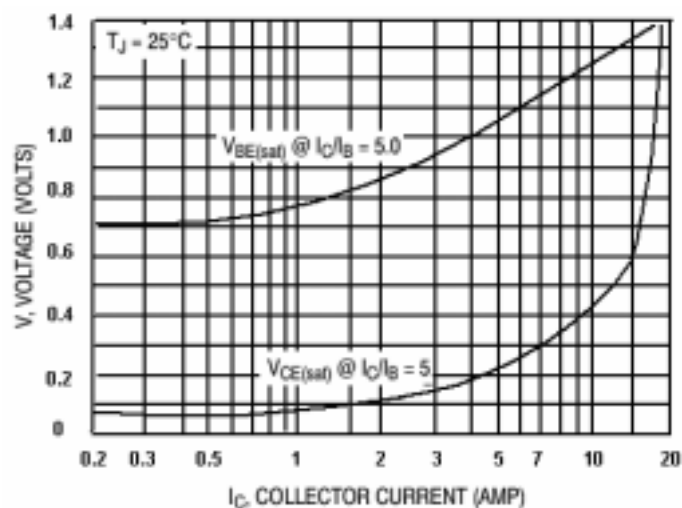
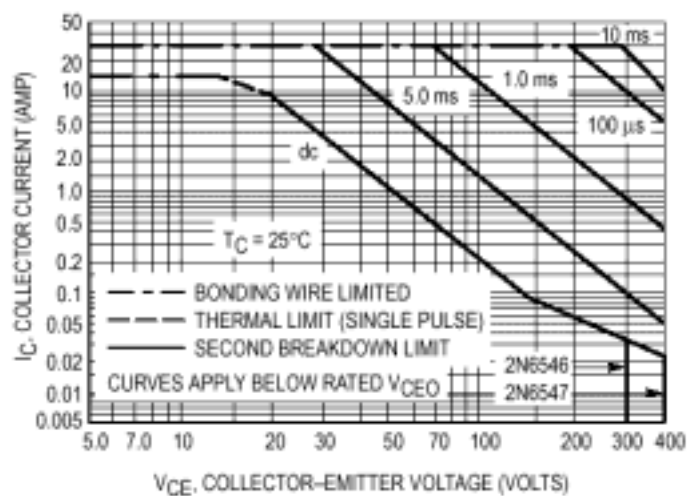
Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Fig.5 Safe Operating Area