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

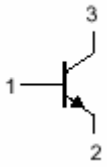

Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=℃)

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℃	175	W
T_j	Junction temperature			200	℃
T_{stg}	Storage temperature			-65~200	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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℃			1.0 4.0	mA
		2N6547	V_{CE}=850V ;$V_{BE(off)}$=1.5V T_C=100℃			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
$R_{th\ j\text{-}c}$	Thermal resistance from junction to case	1.0	℃/W

PACKAGE OUTLINE

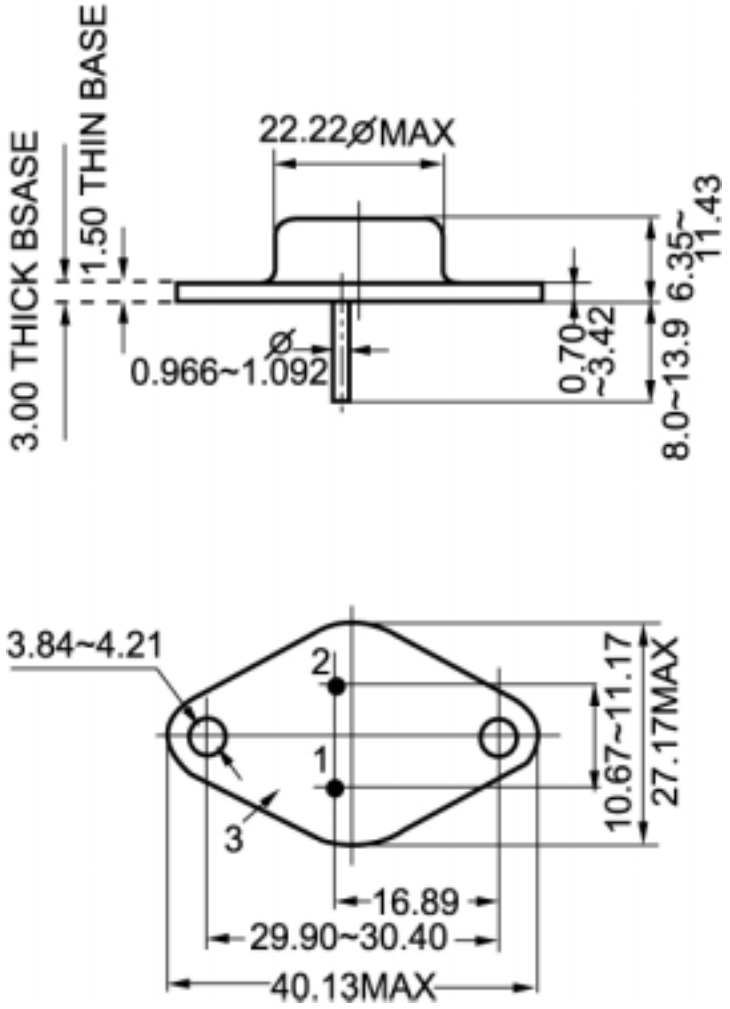

Fig.2 Outline dimensions

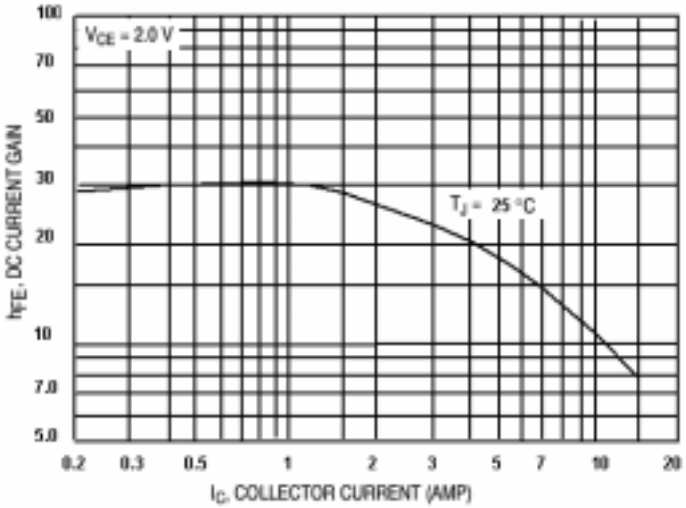

Fig.3 DC current Gain

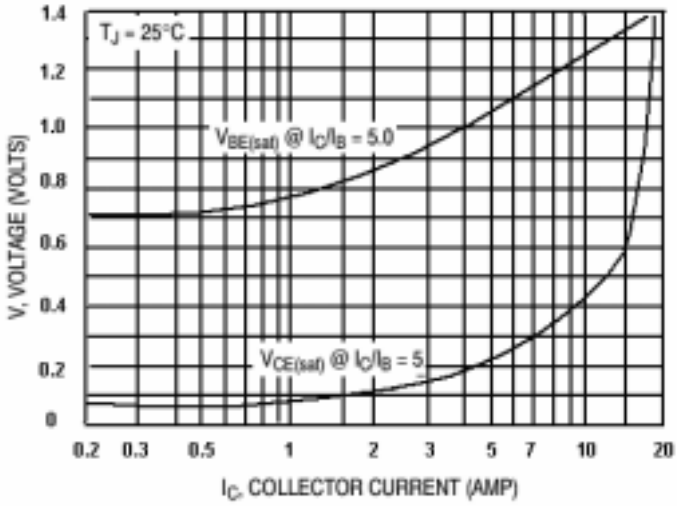

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

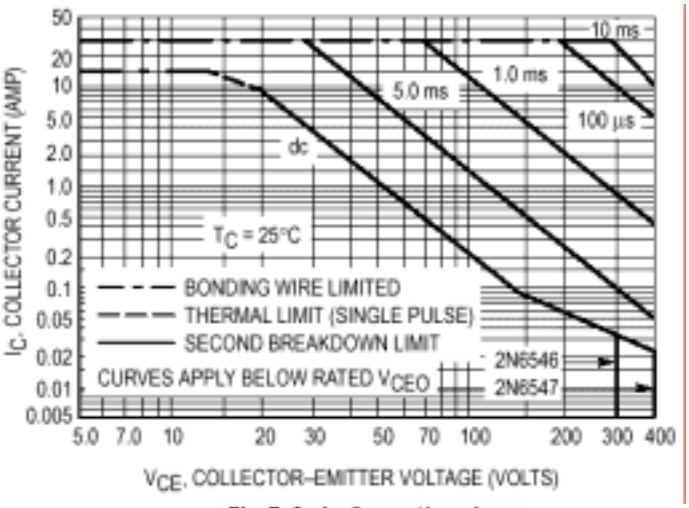

Fig.5 Safe Operating Area