Silicon NPN Power Transistors 2SC2542

DESCRIPTION

With TO-220C package

·High voltage ,high speed switching

·High reliability

APPLICATIONS

·Switching regulators

·Ultrasonic generators

·High frequency inverters

·General purpose power amplifiers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

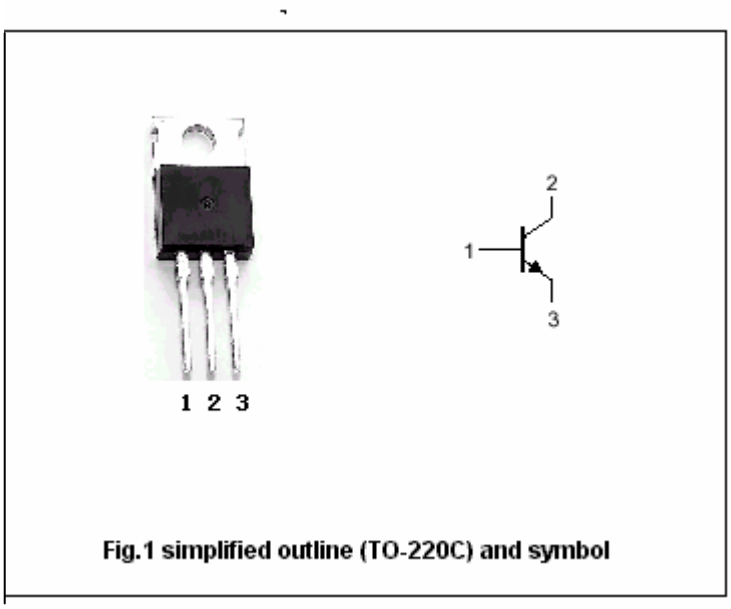

Fig.1 simplified outline (TO-220C) and symbol

ABSOLUTE MAXIMUM RATINGS(T_C=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	450	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		5	A
I_B	Base current		1.5	A
P_C	Collector power dissipation	T_C=25□	40	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-45~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance junction case	3.0	□/W

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=10mA ; I_B=0	400			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=1mA ; I_E=0	450			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=0.1mA ; I_C=0	7			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=2A; I_B=0.4A			1.2	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=2A; I_B=0.4A			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=450V ;I_E=0			1.0	mA
I_{EBO}	Emitter cut-off current	V_{EB}=7V; I_C=0			0.1	mA
h_{FE}	DC current gain	I_C=2 A ; V_{CE}=5V	10			

Switching times

t_{on}	Turn-on time	I_C=4A; I_{B1}=0.8A I_{B2}=-0.8A;R_L=20Ω			1.0	μs
t_s	Storage time				2.0	μs
t_f	Fall time				1.0	μs

PACKAGE OUTLINE

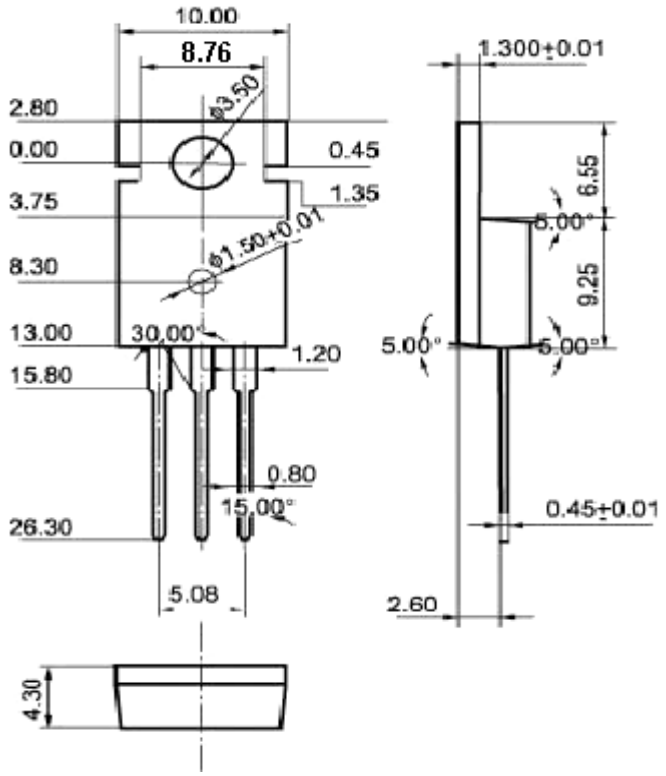

Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)

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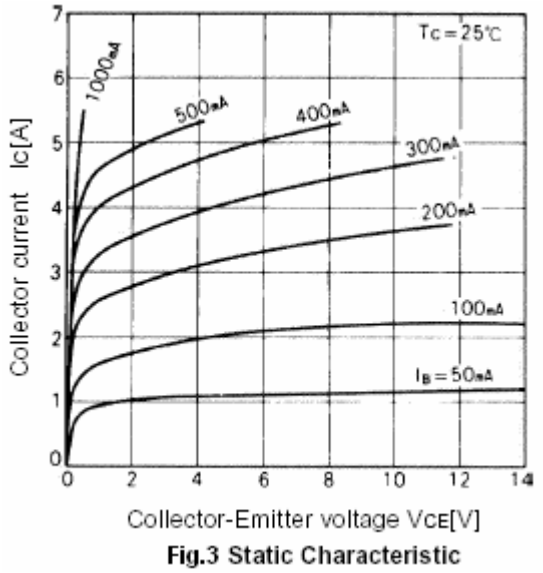

Fig.3 Static Characteristic

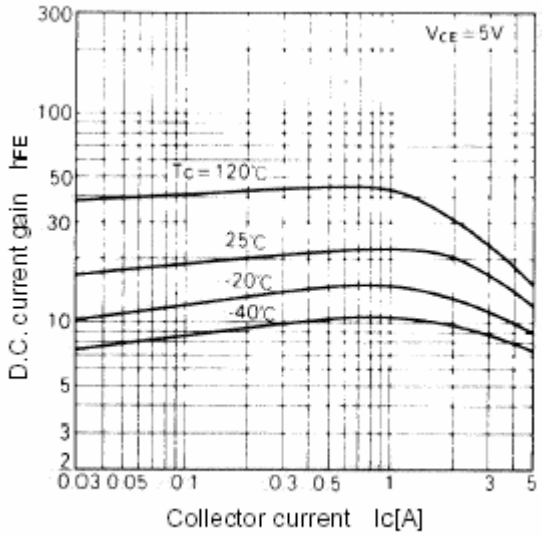

Fig.4 DC current Gain

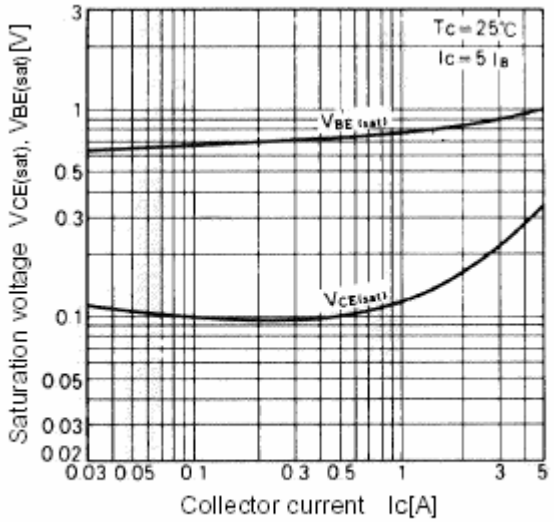

Fig.5 Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

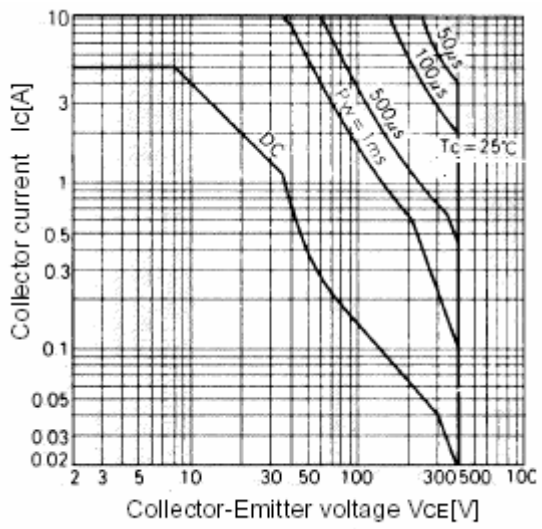

Fig.6 Safe Operating Area