

## Silicon NPN Power Transistors

## 2SD476 2SD476A

## DESCRIPTION

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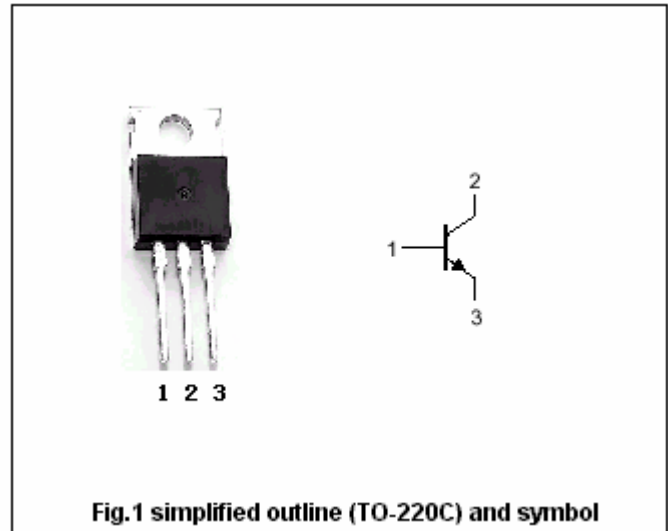
- With TO-220C package
- Complement to type 2SB566/566A

## APPLICATIONS

- For low frequency power amplifier power switching applications

## PINNING

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

Absolute maximum ratings( $T_c=25^\circ$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	70	V
$V_{CEO}$	Collector-emitter voltage	2SD476	50	V
		2SD476A	60	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		4	A
$I_{CM}$	Collector current-peak		8	A
$P_C$	Collector power dissipation	$T_c=25^\circ$	40	W
$T_j$	Junction temperature		150	$^\circ$
$T_{stg}$	Storage temperature		-55~150	$^\circ$

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage		I <sub>C</sub> =10μA ; I <sub>E</sub> =0	70			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SD476	I <sub>C</sub> =50mA; R <sub>BE</sub> =∞	50			V
		2SD476A		60			
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =10μA; I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =2 A; I <sub>B</sub> =0.2 A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =2 A; I <sub>B</sub> =0.2 A			1.2	V
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =50V; I <sub>E</sub> =0			1	μA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =0.1A ; V <sub>CE</sub> =4V	35			
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =1A ; V <sub>CE</sub> =4V	60		200	
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.5A ; V <sub>CE</sub> =4V		7		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =0.5A ; V <sub>CC</sub> =10.5V I <sub>B1</sub> =-I <sub>B2</sub> =0.05 A		0.3		μs
t <sub>off</sub>	Turn-off time			3.0		μs
t <sub>stg</sub>	Storage time			2.5		μs

◆ h<sub>FE-2</sub> classifications

B	C
60-120	100-200

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PACKAGE OUTLINE

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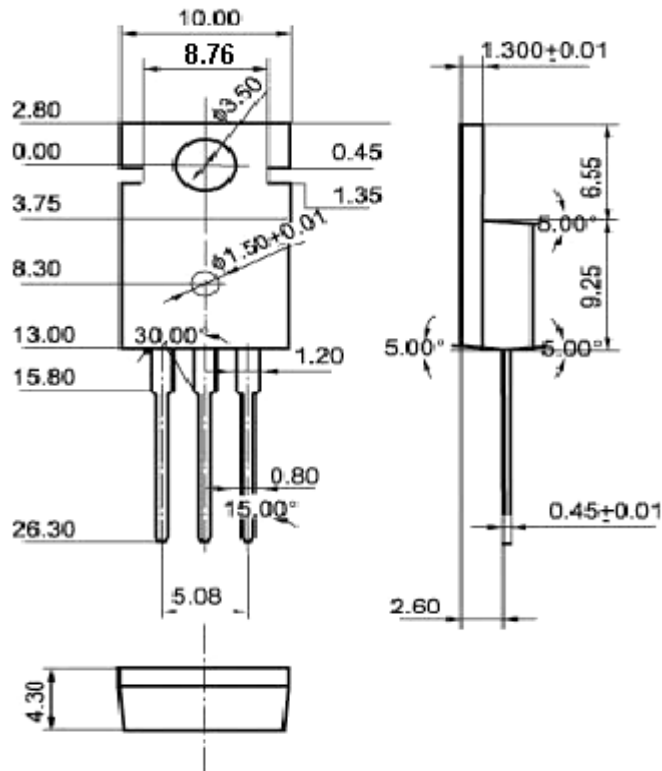


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)

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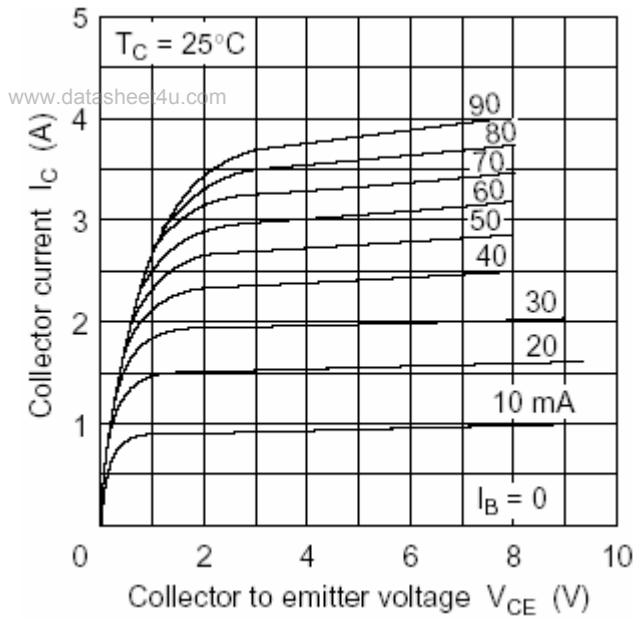


Fig.3 Static Characteristic

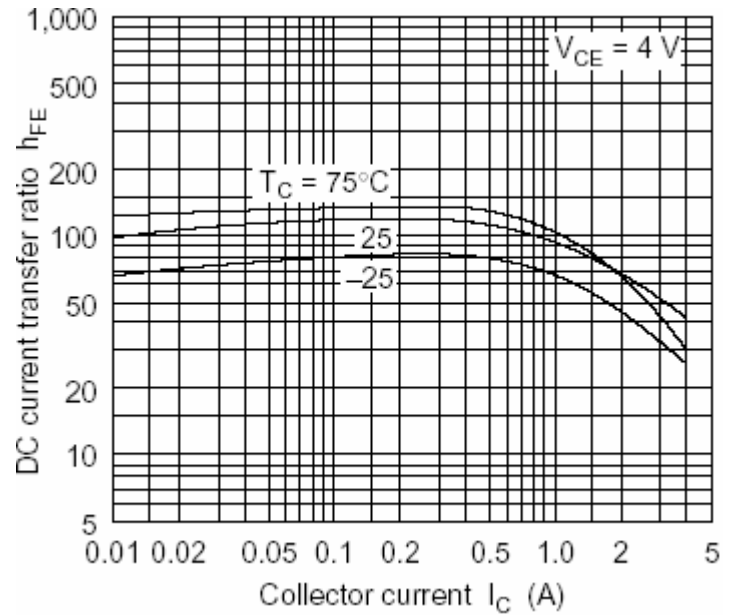


Fig.4 DC current Gain

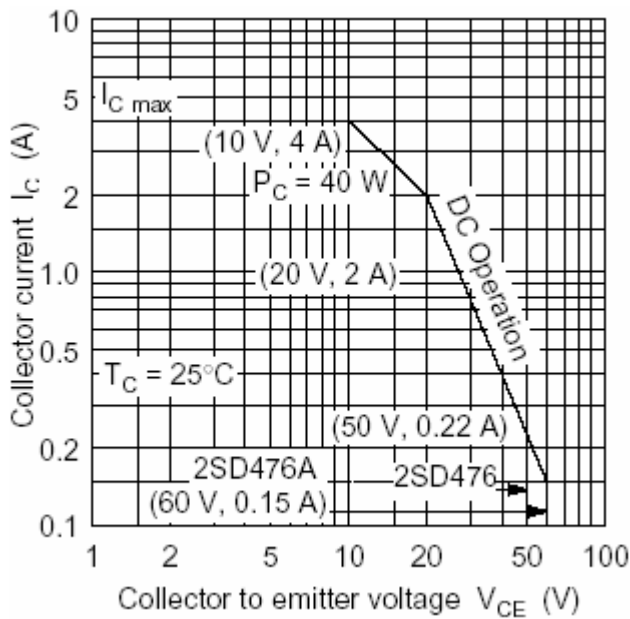


Fig.5 Safe Operating Area

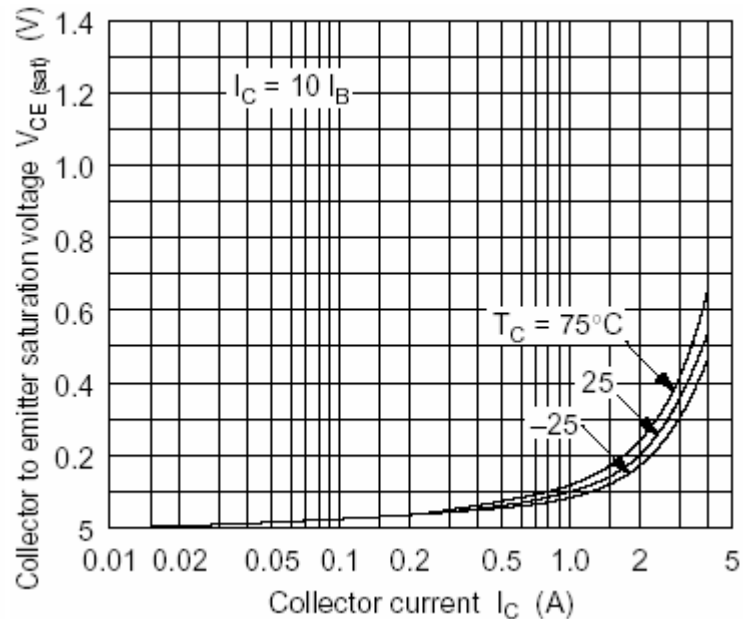


Fig.6 Collector-Emitter Saturation Voltage