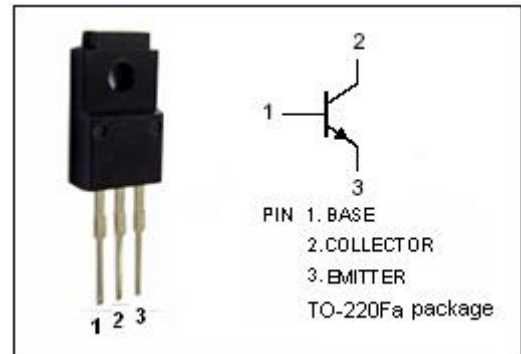


**isc Silicon NPN Power Transistor**
**2SC3566**
**DESCRIPTION**

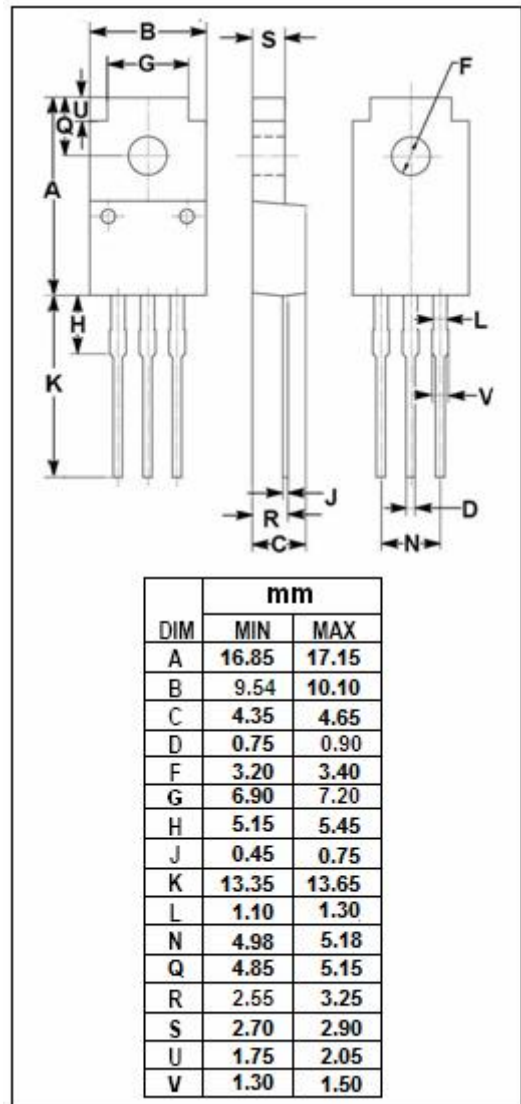
- Low Collector Saturation Voltage
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high-speed switching, and is ideal for use as a driver in devices such as switching regulators, DC/DC converters, and high frequency power amplifiers.


**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	80	V
V <sub>CEO</sub>	Collector-Emitter Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	12	V
I <sub>C</sub>	Collector Current-Continuous	5	A
I <sub>CM</sub>	Collector Current-Peak	10	A
I <sub>B</sub>	Base Current-Continuous	2.5	A
P <sub>C</sub>	Collector Power Dissipation @ T <sub>a</sub> =25°C	1.5	W
	Total Power Dissipation @ T <sub>C</sub> =25°C	25	
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C



## isc Silicon NPN Power Transistor

## 2SC3566

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA ; I <sub>B</sub> = 0	60		V
V <sub>CEX(SUS)-1</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 3.0A ; I <sub>B1</sub> = -I <sub>B2</sub> = 0.3A, V <sub>BE(OFF)</sub> = 5.0V, L = 180 μ H, clamped	80		V
V <sub>CEX(SUS)-2</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 6.0A ; I <sub>B1</sub> = 0.6A ; I <sub>B2</sub> = -0.3A, V <sub>BE(OFF)</sub> = -5.0V, L = 180 μ H, clamped	60		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3.0A ; I <sub>B</sub> = 0.3A		0.6	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3.0A ; I <sub>B</sub> = 0.3A		1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V ; I <sub>E</sub> = 0		10	μ A
I <sub>CER</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V ; R <sub>BE</sub> = 51 Ω , T <sub>a</sub> = 125°C		1.0	mA
I <sub>CEx</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V ; V <sub>BE(off)</sub> = -1.5V V <sub>CE</sub> = 60V ; V <sub>BE(off)</sub> = -1.5V, T <sub>a</sub> = 125°C		10 1.0	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V ; I <sub>C</sub> = 0		10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.3A ; V <sub>CE</sub> = 5V	40		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 3.0A ; V <sub>CE</sub> = 5V	40	200	

## Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 3.0A , R <sub>L</sub> = 17 Ω , I <sub>B1</sub> = -I <sub>B2</sub> = 0.3A, V <sub>CC</sub> ≈ 50V		0.5	μ s
t <sub>stg</sub>	Storage Time			3.0	μ s
t <sub>f</sub>	Fall Time			0.5	μ s

◆ h<sub>FE-2</sub> Classifications

M	L	K
40-80	60-120	100-200

## Notice:

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