

isc Silicon NPN Power Transistor

2SC3566

DESCRIPTION

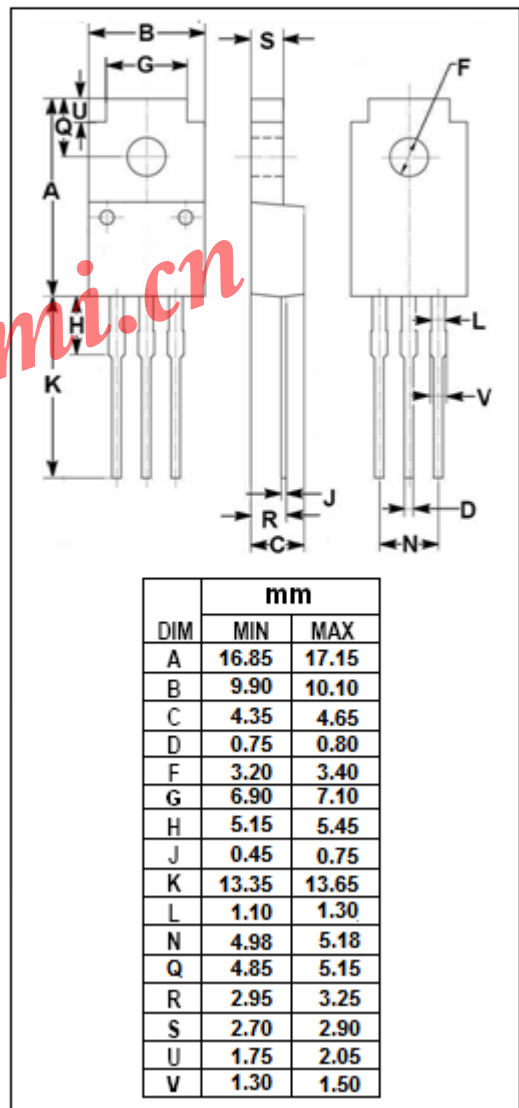
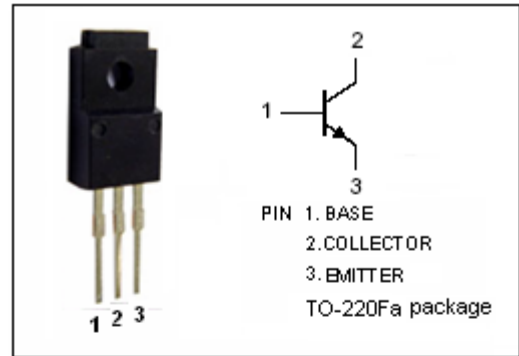
- Low Collector Saturation Voltage
- Fast Switching Speed

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_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	80	V
V _{CEO}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	12	V
I _C	Collector Current-Continuous	5	A
I _{CM}	Collector Current-Peak	10	A
I _B	Base Current-Continuous	2.5	A
P _C	Collector Power Dissipation @ T _a =25°C	1.5	W
	Total Power Dissipation @ T _C =25°C	25	
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

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

Switching times

t _{on}	Turn-on Time	I _C = 3.0A ,R _L = 17 Ω , I _{B1} = -I _{B2} = 0.3A,V _{CC} ≈ 50V		0.5	μ s
t _{stg}	Storage Time			3.0	μ s
t _f	Fall Time			0.5	μ s

◆ h_{FE-2} Classifications

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