

ISC Silicon NPN Power Transistor

2SC3566

DESCRIPTION

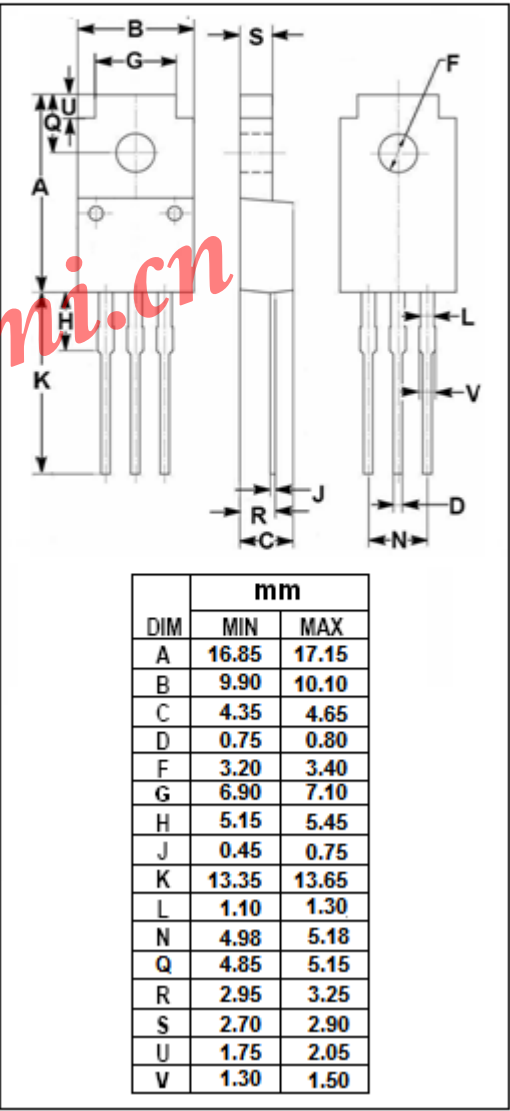
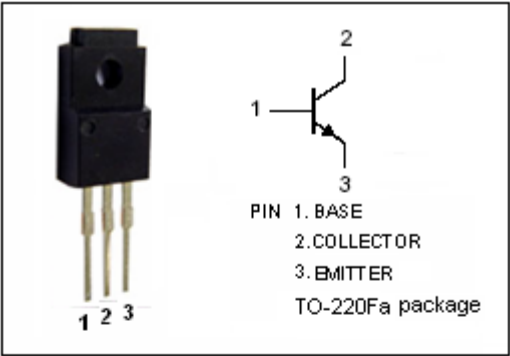
- Low Collector Saturation Voltage
- Fast Switching Speed

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($T_a=25^{\circ}\text{C}$)

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 @ $T_a=25^{\circ}\text{C}$	1.5	W
	Total Power Dissipation @ $T_C=25^{\circ}\text{C}$	25	
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$



ISC Silicon NPN Power Transistor

2SC3566

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=3.0\text{A}$; $I_B=0.3\text{A}$, $L=1\text{mH}$	60		V
$V_{CEX(SUS)-1}$	Collector-Emitter Sustaining Voltage	$I_C=3.0\text{A}$; $I_{B1}=-I_{B2}=0.3\text{A}$, $V_{BE(OFF)}=5.0\text{V}$, $L=180\mu\text{H}$, clamped	80		V
$V_{CEX(SUS)-2}$	Collector-Emitter Sustaining Voltage	$I_C=6.0\text{A}$; $I_{B1}=0.6\text{A}$; $I_{B2}=-0.3\text{A}$, $V_{BE(OFF)}=-5.0\text{V}$, $L=180\mu\text{H}$, clamped	60		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3.0\text{A}$; $I_B=0.3\text{A}$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3.0\text{A}$; $I_B=0.3\text{A}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=60\text{V}$; $I_E=0$		10	μA
I_{CER}	Collector Cutoff Current	$V_{CE}=60\text{V}$; $R_{BE}=51\Omega$, $T_a=125^{\circ}\text{C}$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}=60\text{V}$; $V_{BE(off)}=-1.5\text{V}$ $V_{CE}=60\text{V}$; $V_{BE(off)}=-1.5\text{V}$, $T_a=125^{\circ}\text{C}$		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$		10	μA
h_{FE-1}	DC Current Gain	$I_C=0.3\text{A}$; $V_{CE}=5\text{V}$	40		
h_{FE-2}	DC Current Gain	$I_C=3.0\text{A}$; $V_{CE}=5\text{V}$	40	200	

Switching times

t_{on}	Turn-on Time	$I_C=3.0\text{A}$, $R_L=17\Omega$, $I_{B1}=-I_{B2}=0.3\text{A}$, $V_{CC}\approx 50\text{V}$		0.5	μs
t_{stg}	Storage Time			3.0	μs
t_f	Fall Time			0.5	μs

◆ h_{FE-2} Classifications

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