

Silicon NPN Power Transistor

2SC2334

DESCRIPTION

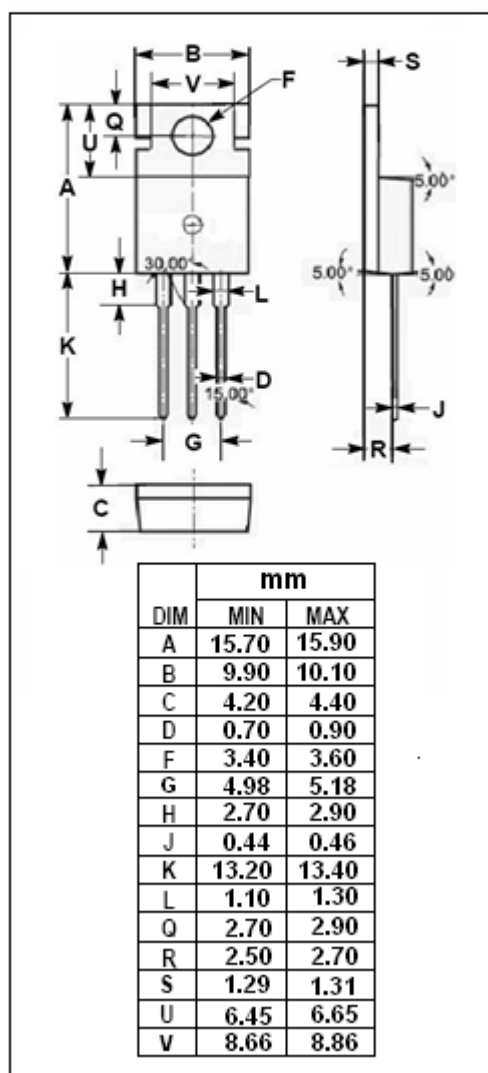
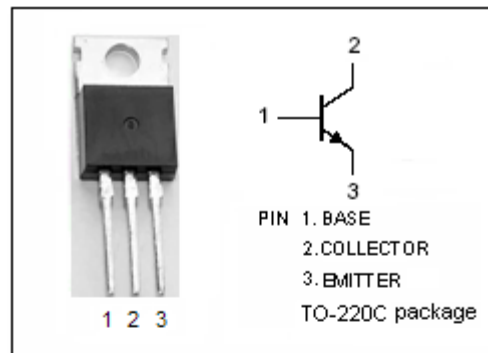
- Low Collector Saturation Voltage
- Fast Switching Speed
- Complement to Type 2SA1010

APPLICATIONS

- Developed for high-voltage 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	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current-Continuous	7.0	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	3.5	A
P_C	Collector Power Dissipation @ $T_a=25$	1.5	W
	Total Power Dissipation @ $T_C=25$	40	
T_J	Junction Temperature	150	
T_{stg}	Storage Temperature Range	-55~150	



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ELECTRICAL CHARACTERISTICS

 $T_C=25$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 5.0A$; $I_B = 0.5A$, $L=1mH$	100		V
$V_{CEX(SUS)-1}$	Collector-Emitter Sustaining Voltage	$I_C = 5.0A$; $I_{B1} = -I_{B2} = 0.5A$, $V_{BE(off)} = 5.0V$, $L=180\mu H$, clamped	100		V
$V_{CEX(SUS)-2}$	Collector-Emitter Sustaining Voltage	$I_C = 10A$; $I_{B1} = 1.0A$; $I_{B2} = -0.5A$, $V_{BE(off)} = -5.0V$, $L=180\mu H$, clamped	100		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 5.0A$; $I_B = 0.5A$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 5.0A$; $I_B = 0.5A$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 100V$; $I_E = 0$		10	μA
I_{CER}	Collector Cutoff Current	$V_{CE} = 100V$; $R_{BE} = 51\Omega$, $T_a = 125$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE} = 100V$; $V_{BE(off)} = -1.5V$ $V_{CE} = 100V$; $V_{BE(off)} = -1.5V$, $T_a = 125$		10 1.0	μA mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5V$; $I_C = 0$		10	μA
h_{FE-1}	DC Current Gain	$I_C = 0.5A$; $V_{CE} = 5V$	40	200	
h_{FE-2}	DC Current Gain	$I_C = 3.0A$; $V_{CE} = 5V$	70	140	
h_{FE-3}	DC Current Gain	$I_C = 5.0A$; $V_{CE} = 5V$	20		

Switching times

t_{on}	Turn-on Time	$I_C = 5.0A$, $R_L = 10\Omega$, $I_{B1} = -I_{B2} = 0.5A$, $V_{CC} \approx 50V$		0.5	μs
t_{stg}	Storage Time			1.5	μs
t_f	Fall Time			0.5	μs

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PACKAGE OUTLINE

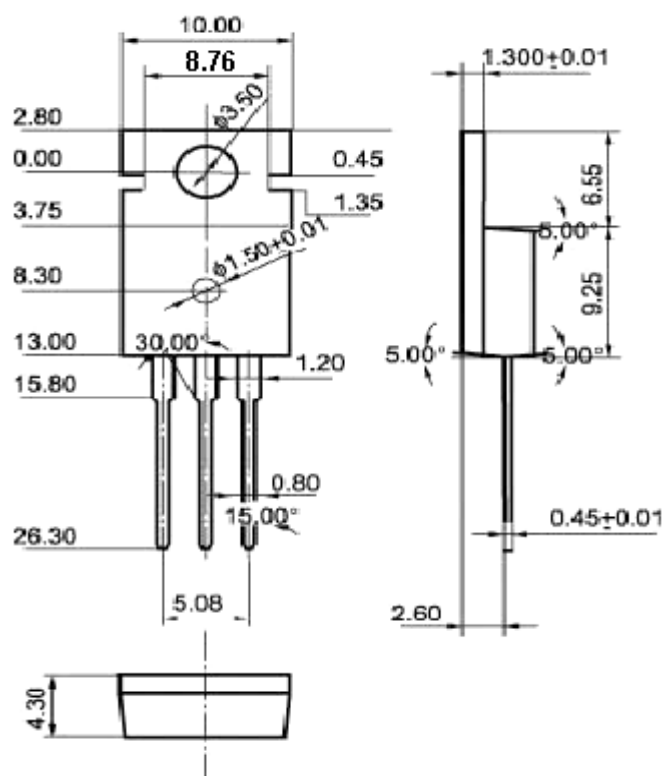


Fig.2 Outline dimensions(unindicated tolerance: ± 0.10 mm)

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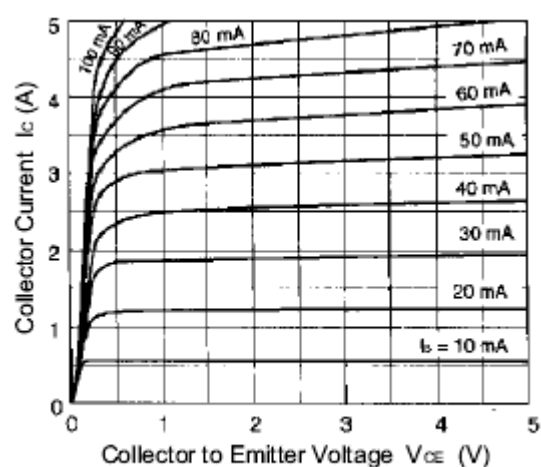


Fig.3 Static Characteristic

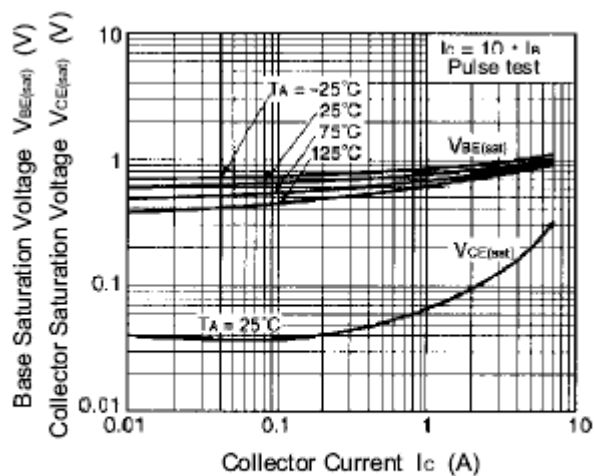
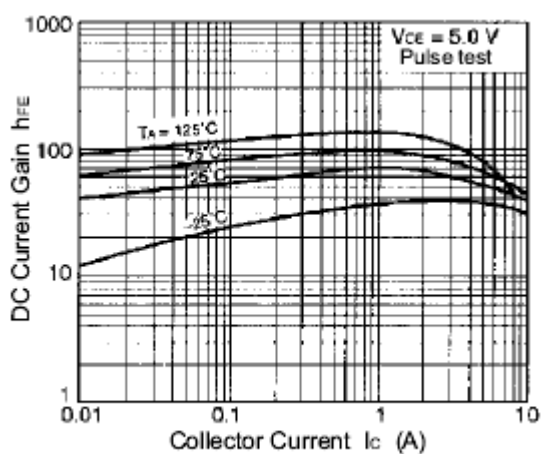
Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

Fig.5 DC current Gain

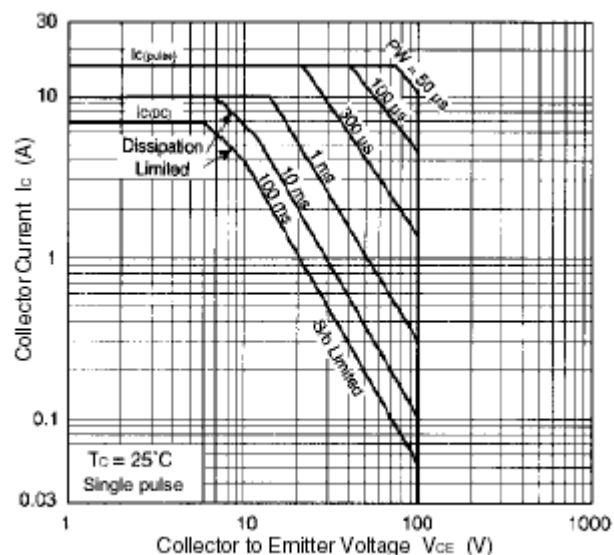


Fig.6 Safe Operating Area