

Silicon NPN Power Transistor

2SC2334

DESCRIPTION

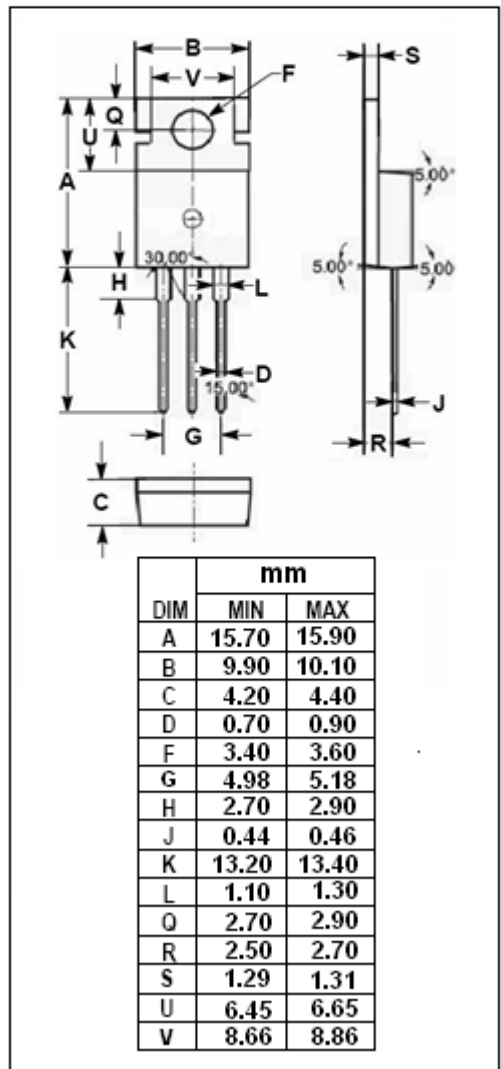
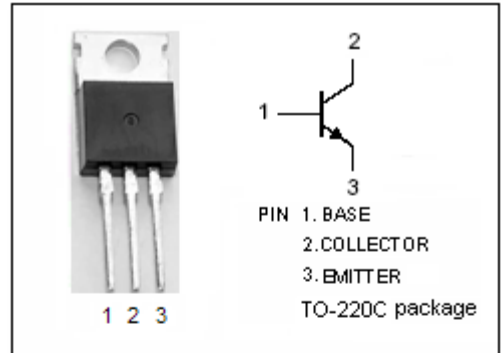
- Low Collector Saturation Voltage
- Fast Switching Speed
- Complement to Type 2SA1010

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)

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	$I_C= 5.0A ; I_{B1}=-I_{B2}= 0.5A,$ $V_{BE(off)}=5.0V, L=180 \mu H, \text{clamped}$	100		V
$V_{CEX(SUS)-2}$	Collector-Emitter Sustaining Voltage	$I_C= 10A ; I_{B1}= 1.0A; I_{B2}= -0.5A,$ $V_{BE(off)}= -5.0V, L= 180 \mu H, \text{clamped}$	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	$I_C= 5.0A, R_L= 10 \Omega,$ $I_{B1}= -I_{B2}= 0.5A, V_{CC}= 50V$		0.5	μs
t_{stg}	Storage Time			1.5	μs
t_f	Fall Time			0.5	μs

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PACKAGE OUTLINE

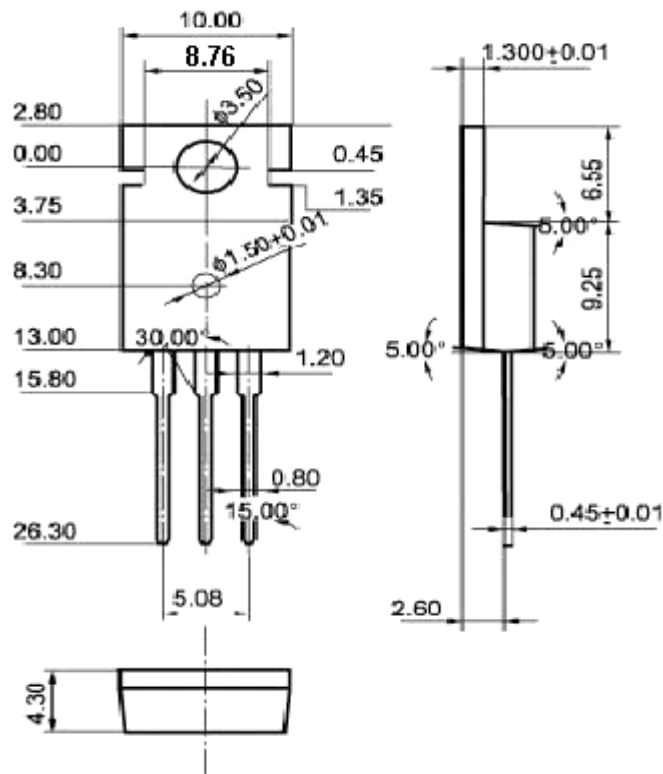


Fig.2 Outline dimensions(unindicated tolerance: ± 0.10 mm)

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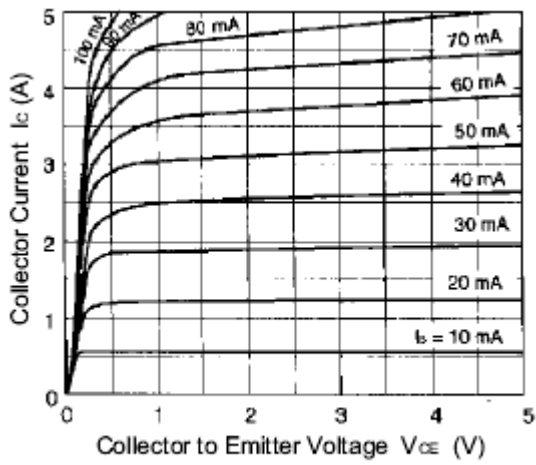


Fig.3 Static Characteristic

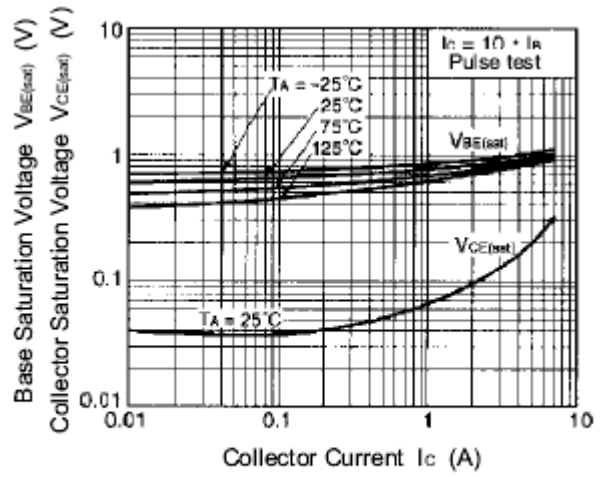


Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

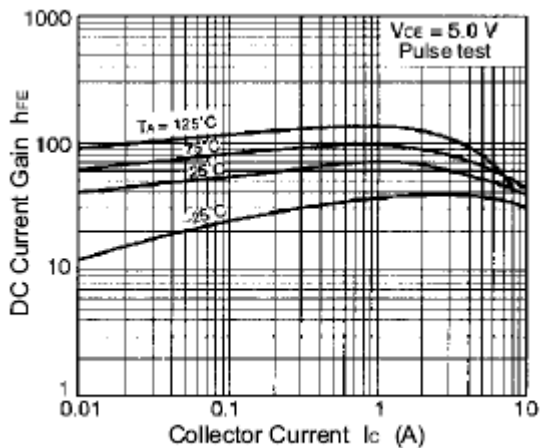


Fig.5 DC current Gain

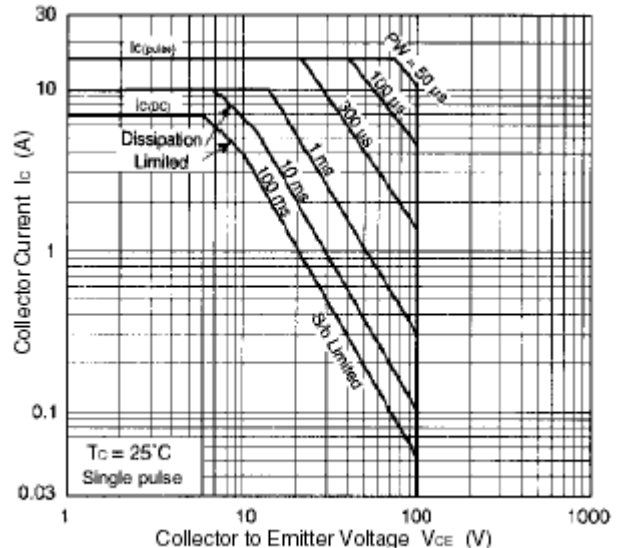


Fig.6 Safe Operating Area