

SPTECH Silicon PNP Power Transistor**2SA1010****DESCRIPTION**

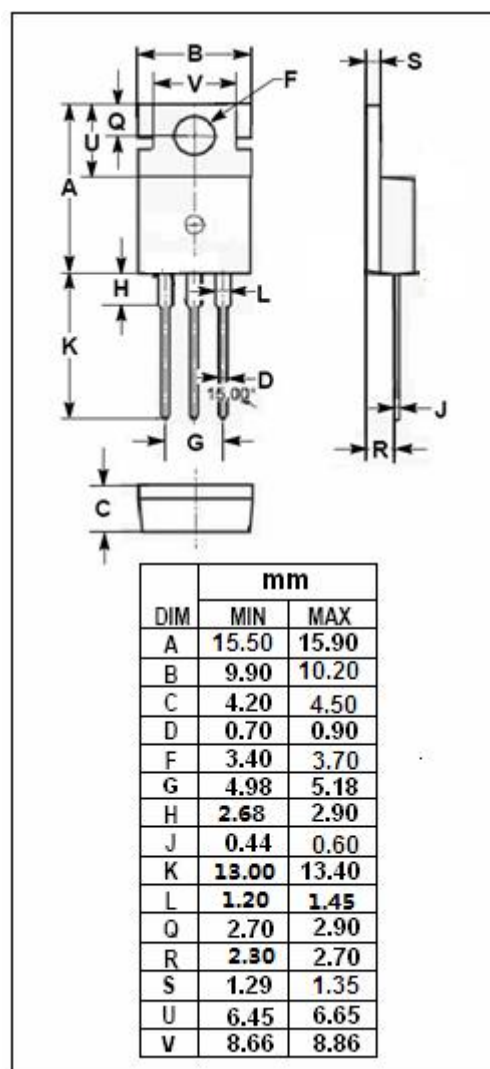
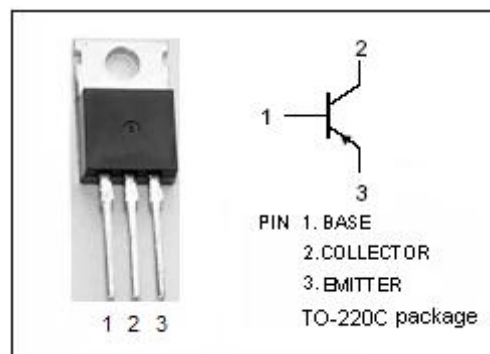
- Low Collector Saturation Voltage
- Fast Switching Speed
- Complement to Type 2SC2334

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	-100	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 @ $T_a=25^\circ\text{C}$	1.5	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	40	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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2SA1010

ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(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 μ 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 μ 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	μ A
I _{CER}	Collector Cutoff Current	V _{CE} = -100V ; R _{BE} = 51 Ω ,T _a =125°C		-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°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 = -0.5A ; V _{CE} = -5V	40	200	
h _{FE-2}	DC Current Gain	I _C = -3.0A ; V _{CE} = -5V	40	200	
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 Ω , I _{B1} = -I _{B2} = -0.5A,V _{CC} ≈-50V		0.5	μ s
t _{stg}	Storage Time			1.5	μ s
t _f	Fall Time			0.5	μ s

◆ **h_{FE-2} Classifications**

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