

SPTECH Silicon PNP Power Transistor**2SA1009****DESCRIPTION**

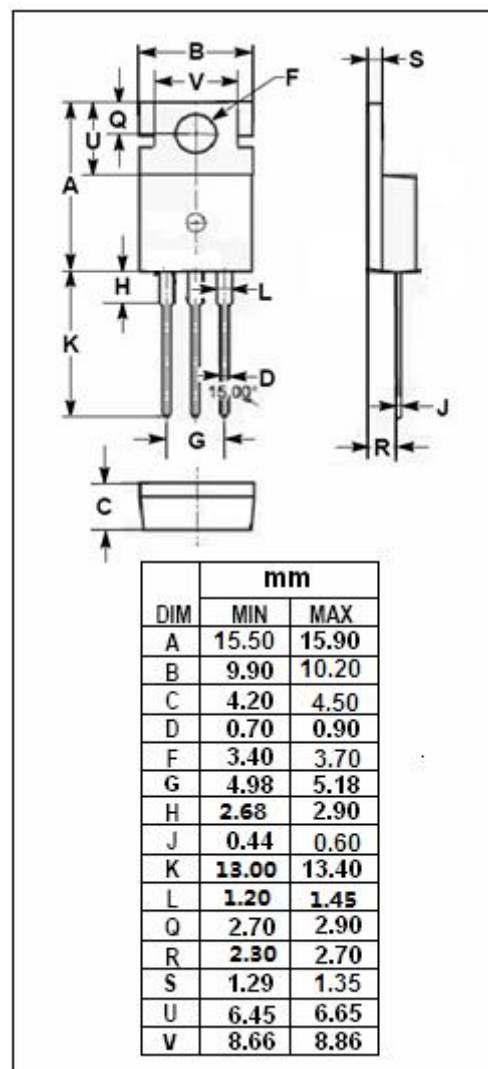
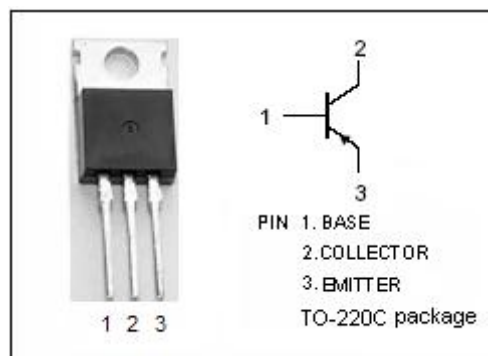
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = -1V(\text{Max.}) @ I_C = -0.3A$
- Fast Switching Speed
- Wide Reverse Bias Safe Operating Area

APPLICATIONS

- Designed for switching regulators, DC/DC converters and High frequency power amplifier application.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-350	V
V_{CEO}	Collector-Emitter Voltage	-350	V
V_{EBO}	Emitter-Base Voltage	-7.0	V
I_C	Collector Current-Continuous	-2.0	A
I_{CM}	Collector Current-Peak	-4.0	A
P_C	Collector Power Dissipation@ $T_a = 25^\circ\text{C}$	15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



SPTECH Silicon PNP Power Transistor**2SA1009****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -0.3A; I _B = -0.06A, L=1mH	-350		V
V _{CEX(SUS)-1}	Collector-Emitter Sustaining Voltage	I _C = -0.3A; I _{B1} =-I _{B2} = -0.06A, L=180 μ H, clamped	-350		V
V _{CEX(SUS)-2}	Collector-Emitter Sustaining Voltage	I _C = -0.6A; I _{B1} = -0.2A; -I _{B2} = 0.06A, L= 180 μ H, clamped	-350		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -0.3A; I _B = -0.06A		-1	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -0.3A; I _B = -0.06A		-1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -350V; I _E = 0		-10	μ A
I _{CER}	Collector Cutoff Current	V _{CE} =-350 ;R _{BE} = 51 Ω ,T _a =125°C		-1.0	mA
I _{CEx}	Collector Cutoff Current	V _{CE} = -250V; V _{BE(off)} = -1.5V V _{CE} =-250; V _{BE(off)} = -1.5V, T _a =125°C		-10 -1.0	μ A mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5.0V; I _C = 0		-10	μ A
h _{FE-1}	DC Current Gain	I _C = -0.1A; V _{CE} = -5V	20	200	
h _{FE-2}	DC Current Gain	I _C = -0.3A; V _{CE} = -5V	10		

◆ **h_{FE-1} Classifications**

M	L	K	J	H
20-40	30-60	40-80	60-120	100-200