

Silicon PNP Power Transistor

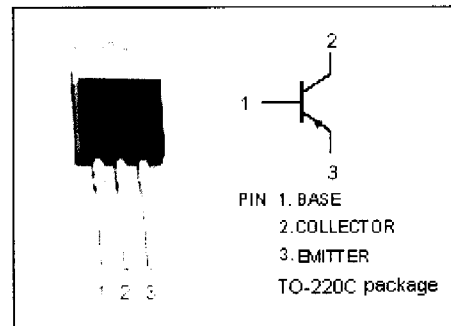
2SA1069

DESCRIPTION

- Low Collector Saturation Voltage
- Fast Switching Speed

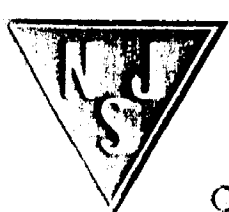
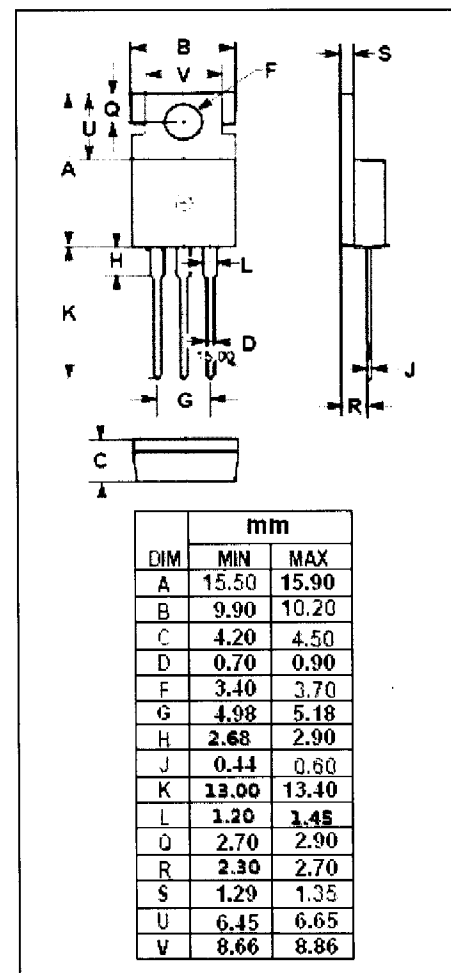
APPLICATIONS

- 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°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°C	1.5	W
	Total Power Dissipation @ T _C =25°C	30	
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C



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ELECTRICAL CHARACTERISTICS

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

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

Switching times

t_{on}	Turn-on Time	$I_C = -3.0A$, $R_L = 17\Omega$, $I_{B1} = -I_{B2} = -0.3A$, $V_{CC} \approx -50V$		0.5	μs
t_{stg}	Storage Time			2.5	μs
t_f	Fall Time			0.5	μs

◆ h_{FE-2} Classifications

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