

Silicon PNP Power Transistor

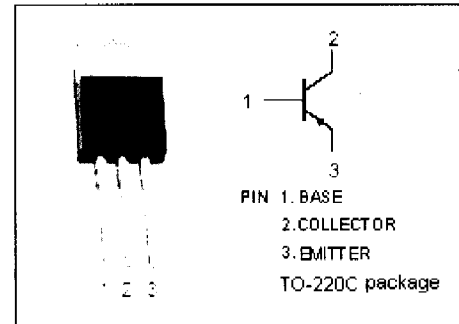
2SA1291

DESCRIPTION

- Low Collector Saturation Voltage-
 $V_{CE(sat)} = -0.4V(\text{Max.}) @ I_C = -5A$
- Fast Switching Speed
- Complement to Type 2SC3255

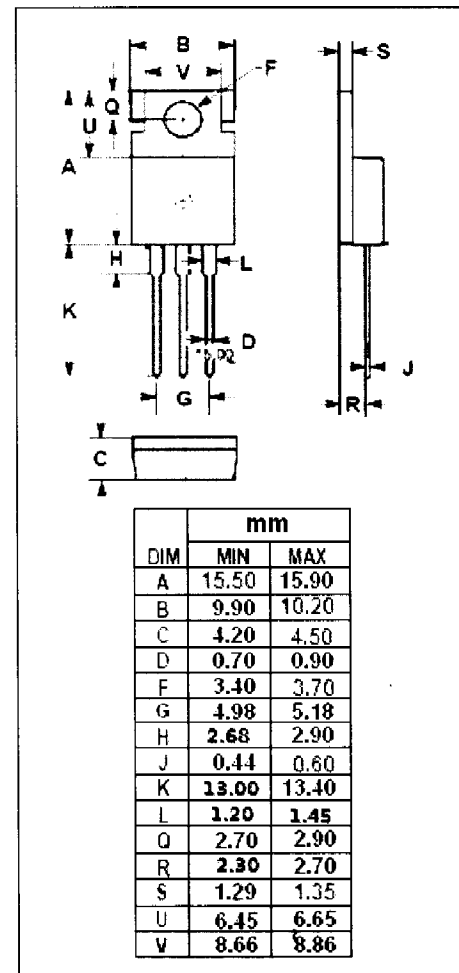
APPLICATIONS

- Various inductance lamp drivers for electrical equipment.
- Inverters, converters(strobo, flash, fluorescent lamp lighting circuits).
- Power amplifier (high power car stereo, motor controller).
- High-speed switching (switching regulator, driver).



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-10	A
I_{CM}	Collector Current-Peak	-12	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}; R_{BE} = \infty$	-60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -1\text{mA}; I_E = 0$	-80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{mA}; I_C = 0$	-5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -0.25\text{A}$			-0.4	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -40\text{V}; I_E = 0$			-100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -4\text{V}; I_C = 0$			-100	μA
h_{FE}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -2\text{V}$	70		280	
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}; V_{CE} = -5\text{V}$		100		MHz

Switching Times

t_{on}	Turn-on Time	$I_C = -5\text{A}, R_L = 6.67\Omega,$ $I_{B1} = -I_{B2} = -0.25\text{A}, V_{CC} \approx -20\text{V}$		0.1		μs
t_{stg}	Storage Time			0.5		μs
t_f	Fall Time			0.1		μs

◆ h_{FE} Classifications

Q	R	S
70-140	100-200	140-280