

isc Silicon PNP Power Transistor

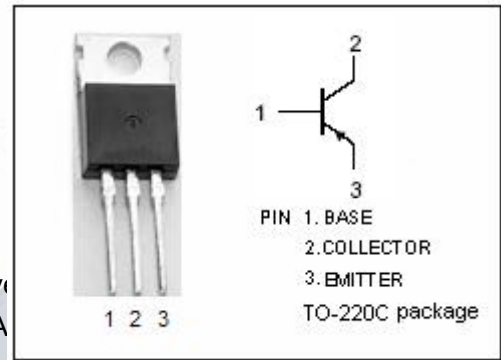
2SB1669

DESCRIPTION

- High DC current amplifier rate  
 $h_{FE} \geq 100 @ V_{CE} = -5V, I_C = -0.5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

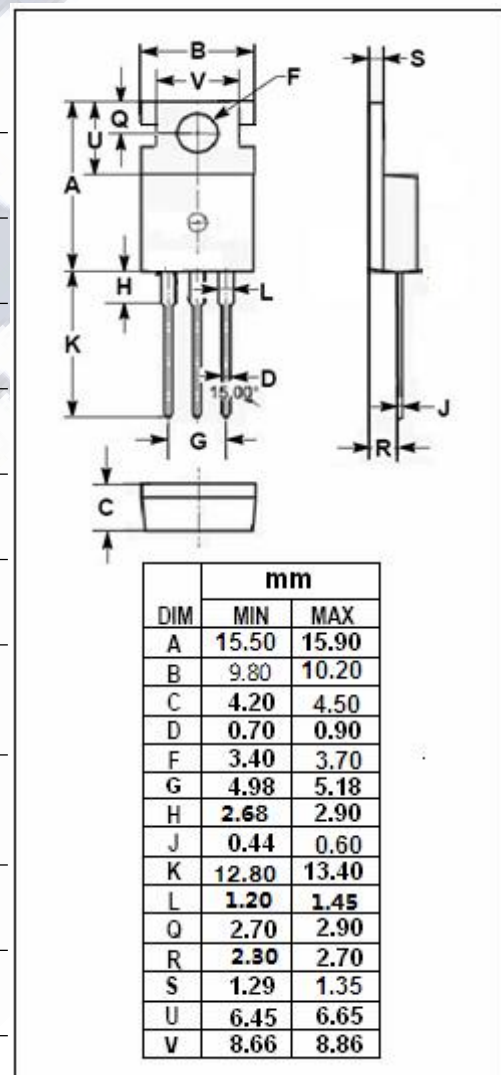
APPLICATIONS

- The 2SB1669-Z is a power transistor that can be directly driven from the output of an IC. This transistor is ideal for OA and FA equipment such as motor and solenoid drivers



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-60	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-3	A
$I_{CP}$	Collector Current-Pulse	-6	A
$P_C$	Total Power Dissipation @ $T_a = 25^\circ C$	1.5	W
$P_C$	Total Power Dissipation @ $T_c = 25^\circ C$	25	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**isc Silicon PNP Power Transistor****2SB1669****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CE(sat)</sub> <sup>NOTE</sup>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -3.0A; I <sub>B</sub> = -300mA			-1.0	V
V <sub>BE(sat)</sub> <sup>NOTE</sup>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -3.0A; I <sub>B</sub> = -300mA			-2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -60V; I <sub>E</sub> = 0			-10	μ A
h <sub>FE1</sub> <sup>NOTE</sup>	DC Current Gain	I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -5V	100		400	
h <sub>FE2</sub> <sup>NOTE</sup>	DC Current Gain	I <sub>C</sub> = -3A; V <sub>CE</sub> = -5V	20			
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> =-5V ,I <sub>C</sub> =-500mA		5		MHz
C <sub>ob</sub>	Collector output capacitance	V <sub>CB</sub> =-10V ,I <sub>E</sub> =0,f=1MHz		80		pF

NOTE:Pulse test PW≤350us,duty cycle ≤2%

**Switching Times**

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = -2A; I <sub>B1</sub> = -I <sub>B2</sub> = -0.2A,		0.4		μ s
t <sub>stg</sub>	Storage Time			1.7		μ s
t <sub>f</sub>	Fall Time			0.5		μ s