

Silicon PNP Power Transistor

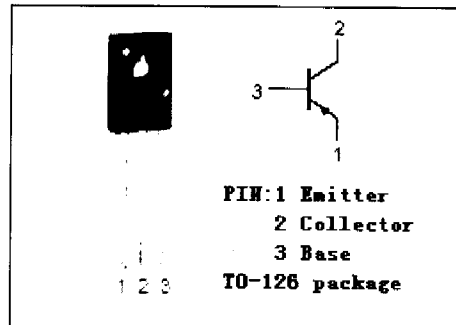
2SB631K

DESCRIPTION

- High Collector Current- $I_C=-1.0A$
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO}=-120V(\text{Min})$
- Good Linearity of h_{FE}
- Low Saturation Voltage
- Complement to Type 2SD600K

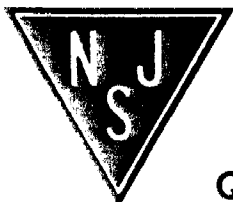
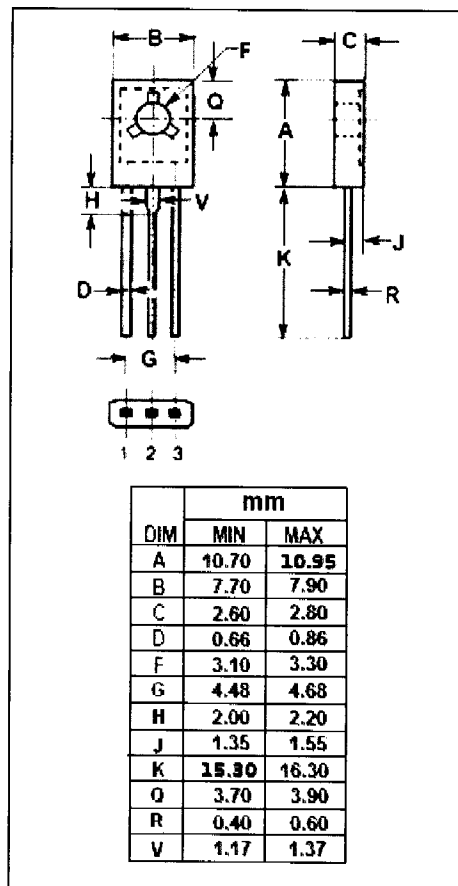
APPLICATIONS

- Power amplifier applications



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-1	A
I_{CP}	Collector Current-Pulse	-2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	8	W
	Collector Power Dissipation @ $T_a=25^\circ C$	1	
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



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Quality Semi-Conductors

Silicon PNP Power Transistor

2SB631K

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}$; $I_E = 0$	-120			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}$; $R_{BE} = \infty$	-120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}$; $I_C = 0$	-5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}$; $I_B = -50\text{mA}$			-0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -500\text{mA}$; $I_B = -50\text{mA}$			-1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -50\text{V}$; $I_E = 0$			-1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -4\text{V}$; $I_C = 0$			-1	μA
h_{FE-1}	DC Current Gain	$I_C = -50\text{mA}$; $V_{CE} = -5\text{V}$	60		320	
h_{FE-2}	DC Current Gain	$I_C = -500\text{mA}$; $V_{CE} = -5\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C = -50\text{mA}$; $V_{CE} = -10\text{V}$		110		MHz
C_{OB}	Output Capacitance	$I_E = 0$; $V_{CB} = -10\text{V}$, $f_{test} = 1\text{MHz}$		30		pF

Switching times

t_f	Fall Time	$I_C = -500\text{mA}$, $R_L = 24\Omega$, $I_{B1} = -I_{B2} = -50\text{mA}$, $V_{CE} = -12\text{V}$		0.08		μs
t_{off}	Turn-Off Time			0.1		μs
t_{stg}	Storage Time			0.6		μs

◆ h_{FE-1} Classifications

D	E	F
60-120	100-200	160-320