

isc Silicon NPN Power Transistor

BD721

DESCRIPTION

- DC Current Gain-
: $h_{FE}=40@I_C=0.5A$
- Collector-Emitter Breakdown Voltage -
: $V_{(BR)CEO}=80V(\text{Min})$
- Complement to type BD722

APPLICATIONS

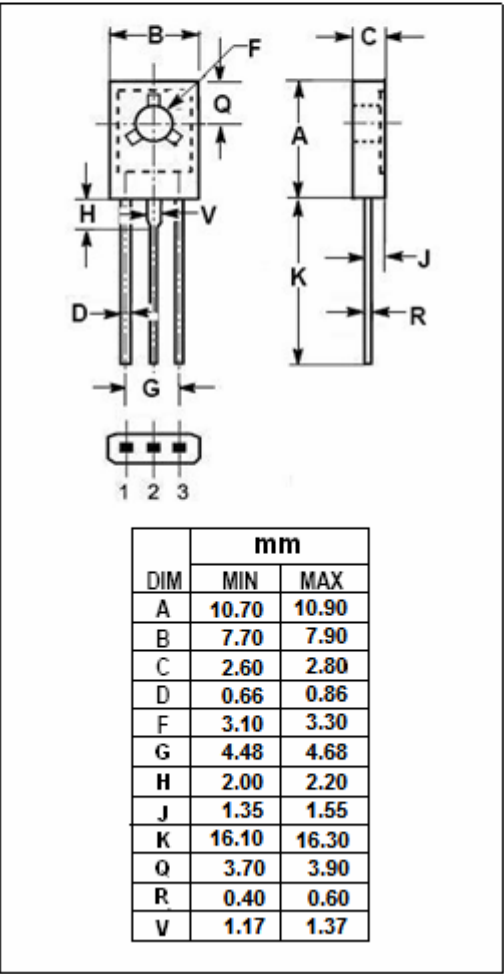
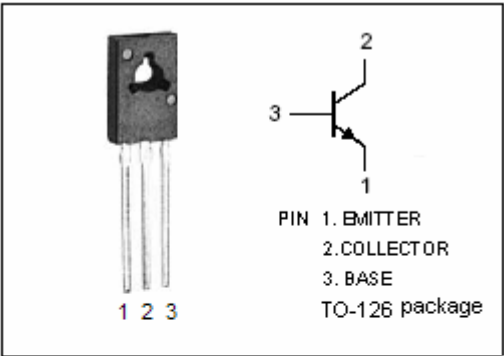
- Designed for use in audio output and general purpose amplifier applications.

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	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_{CM}	Collector Current-Peak	7	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	30	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	3.5	$^{\circ}\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	100	$^{\circ}\text{C/W}$



isc Silicon NPN Power Transistor**BD721****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	$I_C = 30\text{mA}$; $I_B = 0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}$; $I_B = 0.2\text{A}$			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 2\text{A}$; $V_{CE} = 4\text{V}$			1.4	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 80\text{V}$; $I_E = 0$			50	μA
		$V_{CB} = 40\text{V}$; $I_E = 0$; $T_C = 150^{\circ}\text{C}$			1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = 40\text{V}$; $I_B = 0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}$; $I_C = 0$			0.2	mA
h_{FE-1}	DC Current Gain	$I_C = 0.5\text{A}$; $V_{CE} = 4\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C = 2\text{A}$; $V_{CE} = 4\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C = 0.5\text{A}$; $V_{CE} = 4\text{V}$	3			MHz

Switching Times

t_{on}	Turn-On time	$I_C = 1\text{A}$; $I_{B1} = -I_{B2} = 0.1\text{A}$; $V_{CC} = 20\text{V}$		0.3		μs
t_{off}	Turn-Off time			1.5		μs