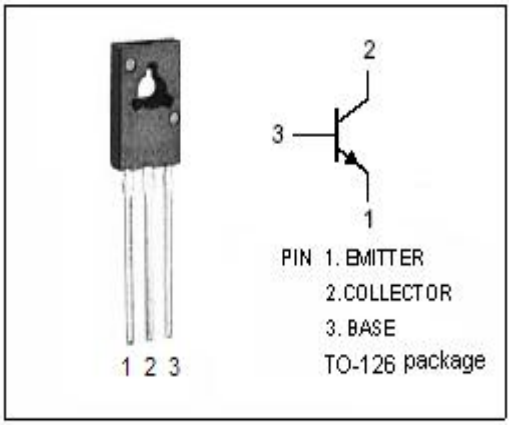
isc Silicon NPN Power Transistor — BD725

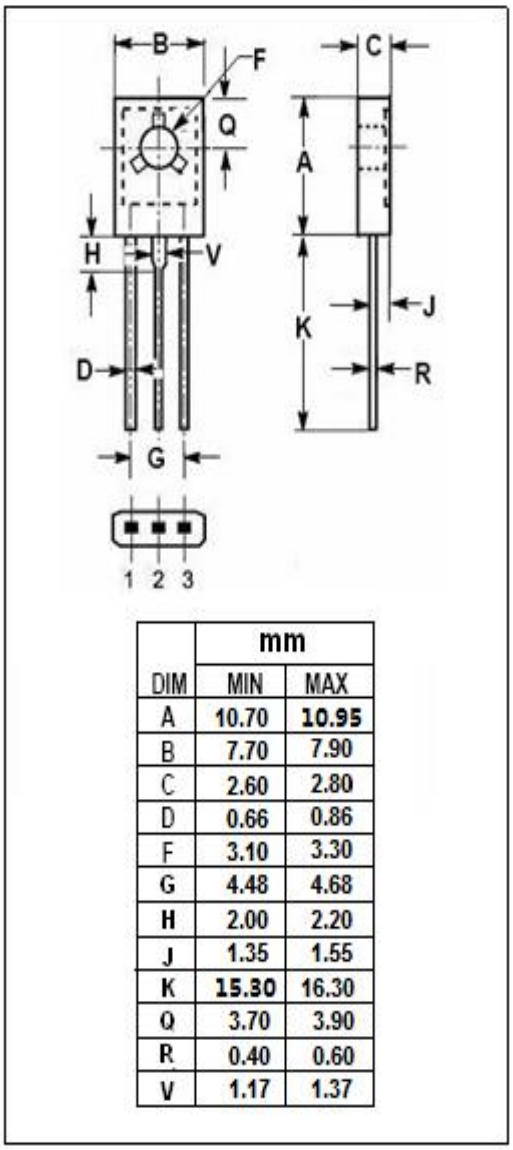
DESCRIPTION

- DC Current Gain-
  : h_{FE}= 40@ I_C= 0.5A
- Collector-Emitter Breakdown Voltage -
  : $V_{(BR)CEO}$= 120V(Min)
- Complement to type BD726
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

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



DIM	mm MIN	mm MAX
A	10.70	10.95
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	15.30	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	4	A
I_{CM}	Collector Current-Peak	7	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ T_C=25℃	36	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 30mA ; I_B= 0	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.2A			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 2A; V_{CE}= 4V			1.4	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			50	μA
		V_{CB}= 60V; I_E= 0; T_C= 150℃			1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V; I_B= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			0.2	mA
h_{FE-1}	DC Current Gain	I_C= 0.5A; V_{CE}= 4V	40			
h_{FE-2}	DC Current Gain	I_C= 2A; V_{CE}= 4V	20			
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 4V	3			MHz
Switching Times						
t_{on}	Turn-On time	I_C= 1A; I_{B1}= -I_{B2}= 0.1A;V_{CC}= 20V		0.3		μs
t_{off}	Turn-Off time			1.5		μs

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