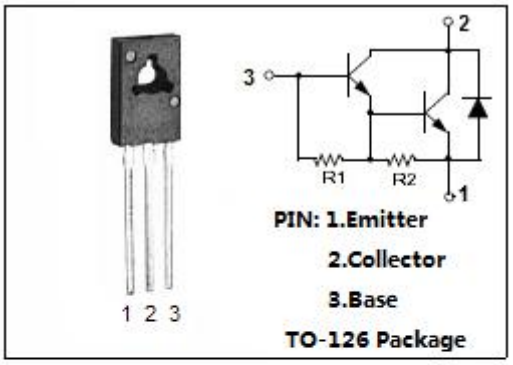
isc Silicon NPN Darlington Power Transistor BD683

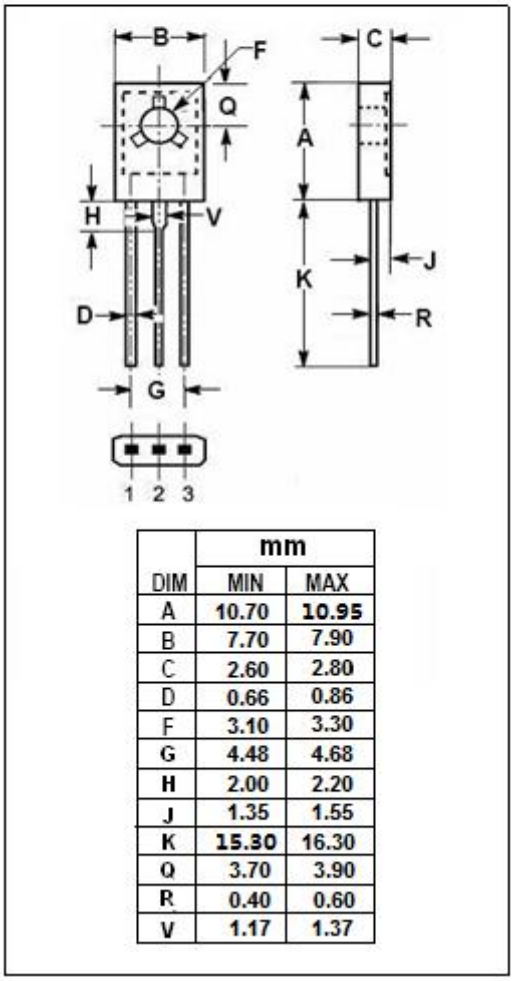
DESCRIPTION

- Collector–Emitter Breakdown Voltage—
  : $V_{(BR)CEO}$ = 120V(Min.)
- DC Current Gain—
  : h_{FE} = 750(Min)@ I_C= 1.5A
- Complement to Type BD684
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for use as output devices in complementary general-purpose amplifier applications.



DIM	mm MIN	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	140	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current	0.1	A
P_C	Collector Power Dissipation T_C=25℃	40	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	3.12	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 50mA; I_B= 0	120		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 1.5A; I_B= 6mA		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 1.5A; V_{CE}= 3V		2.5	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 120V; I_B= 0		0.5	mA
I_{CBO}	Collector Cutoff Current	V_{CB}= 140V; I_E= 0 V_{CB}= 70V; I_E= 0;T_C= 150℃		0.2 1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		2.0	mA
h_{FE-1}	DC Current Gain	I_C= 1.5 A ; V_{CE}= 3V	750		
h_{FE-2}	DC Current Gain	I_C= 0.5 A ; V_{CE}= 3V		2200	
h_{FE-3}	DC Current Gain	I_C= 4 A ; V_{CE}= 3V		1500	