

isc Silicon NPN Darlington Power Transistor
BD681
DESCRIPTION

- Collector–Emitter Breakdown Voltage—
: $V_{(BR)CEO} = 100V$
- DC Current Gain—
: $h_{FE} = 750(\text{Min}) @ I_C = 1.5 A$
- Complement to Type BD682
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

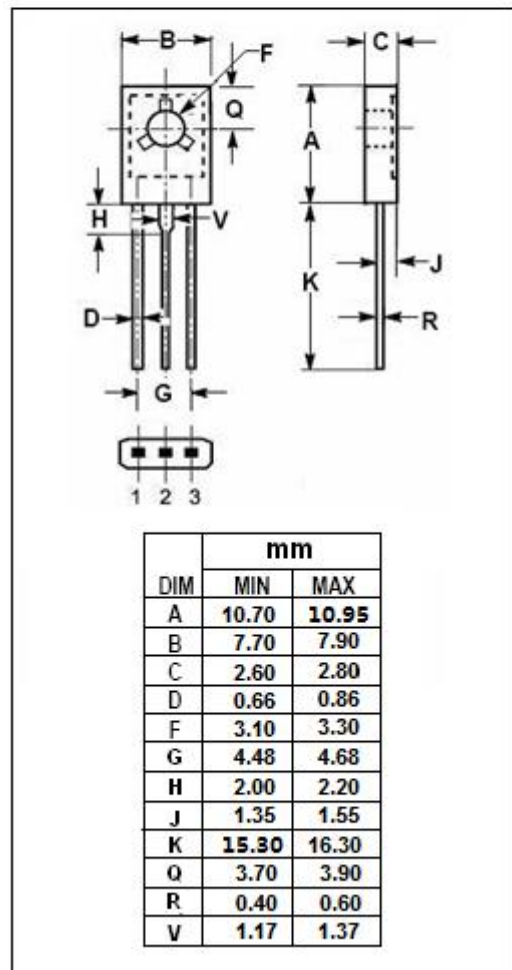
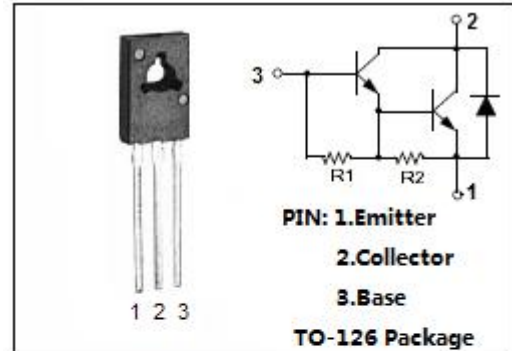
- Designed for use as output devices in complementary general-purpose amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	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 $T_C = 25^\circ C$	40	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.13	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 50mA; I _B = 0	100		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1.5A; I _B = 30mA		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} = 100V; I _B = 0		0.5	mA
I _{CB0}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0 V _{CB} = 100V; I _E = 0; T _C = 100°C		0.2 2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		2.0	mA
h _{FE}	DC Current Gain	I _C = 1.5 A; V _{CE} = 3V	750		

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