

isc Silicon NPN Darlington Power Transistor
MJE803
DESCRIPTION

- Collector–Emitter Breakdown Voltage—
: $V_{(BR)CEO} = 80\text{ V}$
- DC Current Gain—
: $h_{FE} = 750(\text{Min}) @ I_C = 2\text{ A}$
= $100(\text{Min}) @ I_C = 4\text{ A}$
- Complement to Type MJE703
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

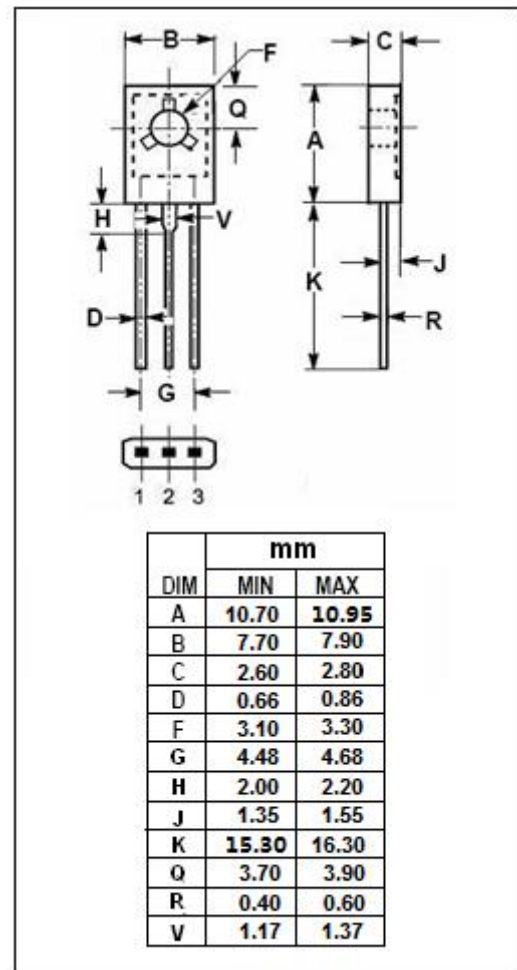
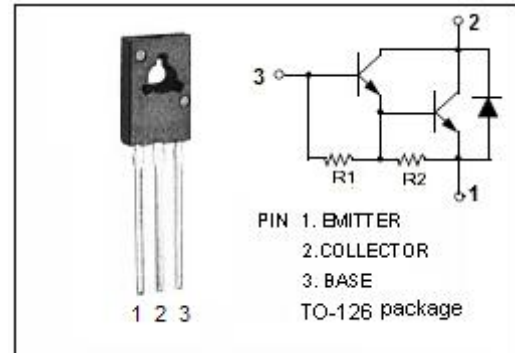
- Designed for general-purpose amplifier and low-speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emmitter Voltage	80	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 $T_C = 25^\circ\text{C}$	40	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



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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	80		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _c = 2A; I _B = 40mA		2.8	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _c = 4A; I _B =-40mA		3.0	V
V _{BE(on)-1}	Base-Emitter On Voltage	I _c = 2A; V _{CE} = 3V		2.5	V
V _{BE(on)-2}	Base-Emitter On Voltage	I _c = 4A; V _{CE} = -3V		3.0	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 80V; I _B = 0		0.1	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0 V _{CB} = 80V; I _E = 0; T _c = 100°C		0.1 0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _c = 0		2.0	mA
h _{FE-1}	DC Current Gain	I _c = 2A ; V _{CE} = 3V	750		
h _{FE-2}	DC Current Gain	I _c = 4A ; V _{CE} = 3V	100		

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