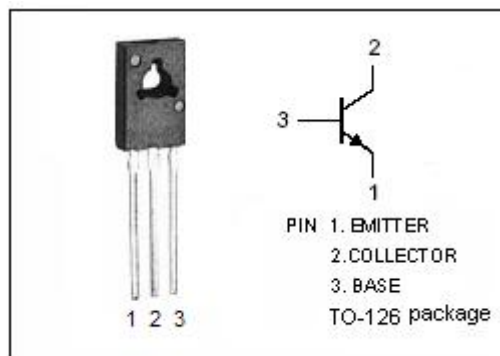


**isc Silicon NPN Power Transistor**
**MJE182**
**DESCRIPTION**

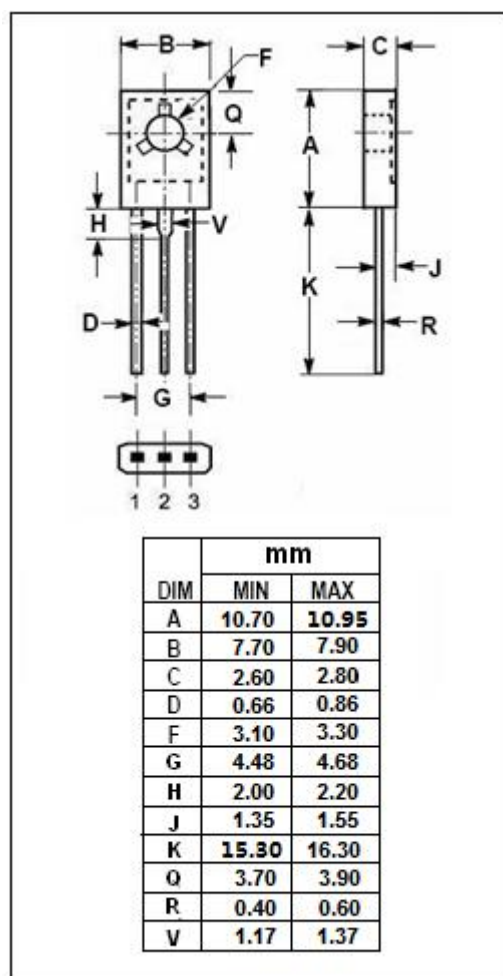
- Collector–Emitter Sustaining Voltage—  
:  $V_{CEO(SUS)} = 80\text{ V}$
- DC Current Gain—  
:  $h_{FE} = 30(\text{Min}) @ I_C = 0.5\text{ A}$   
=  $12(\text{Min}) @ I_C = 1.5\text{ A}$
- Complement to the PNP MJE172
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Low power audio amplifier
- Low current high speed switching applications


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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-peak	6	A
$I_B$	Base Current	1	A
$P_C$	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.5	W
	Collector Power Dissipation $T_C=25^\circ\text{C}$	12.5	
$T_j$	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	10	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	83.4	$^\circ\text{C}/\text{W}$

## isc Silicon NPN Power Transistor

## MJE182

## ELECTRICAL CHARACTERISTICS

T<sub>c</sub> =25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 10mA; I <sub>B</sub> = 0	80		V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 0.5 A ;I <sub>B</sub> = 50mA		0.3	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A ;I <sub>B</sub> = 0.15 A		0.9	V
V <sub>CE(sat)-3</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A ;I <sub>B</sub> = 0.6 A		1.7	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.15A		1.5	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.6A		2.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	V <sub>CE</sub> = 1V; I <sub>C</sub> = 0.5A		1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 100V; I <sub>E</sub> = 0 V <sub>CB</sub> = 100V; I <sub>E</sub> = 0; T <sub>C</sub> = 150°C		0.1 0.1	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0		0.1	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.1 A ; V <sub>CE</sub> = 1V	50	250	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 1V	30		
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 1.5 A ; V <sub>CE</sub> = 1V	12		

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