

isc Silicon PNP Darlington Power Transistor

MJE700

DESCRIPTION

- DC Current Gain—
: $h_{FE} = 2000(\text{TYP}) @ I_C = -2\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

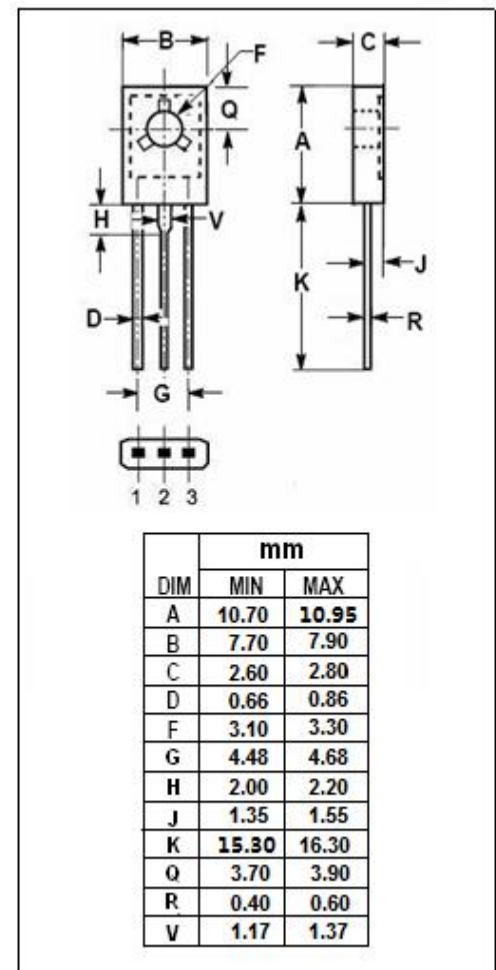
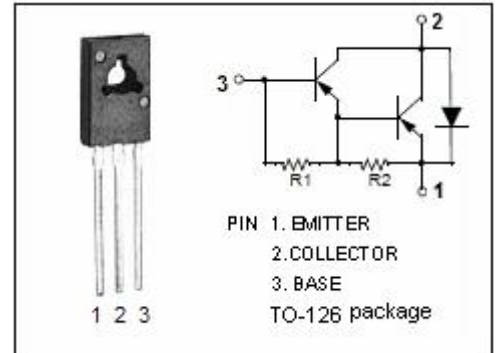
- Designed for general-purpose amplifier and low-speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}$; $I_B = 0$	-80		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -1.5\text{A}$; $I_B = -30\text{mA}$		-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}$; $I_B = -40\text{mA}$		-3.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C = -1.5\text{A}$; $V_{CE} = -3\text{V}$		-2.5	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C = -4\text{A}$; $V_{CE} = -3\text{V}$		-3.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -80\text{V}$; $I_B = 0$		-0.1	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -80\text{V}$; $I_E = 0$ $V_{CB} = -80\text{V}$; $I_E = 0$; $T_C = 100^{\circ}\text{C}$		-0.1 -0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$		-2.0	mA
h_{FE-1}	DC Current Gain	$I_C = -1.5\text{A}$; $V_{CE} = -3\text{V}$	750		
h_{FE-2}	DC Current Gain	$I_C = -4\text{A}$; $V_{CE} = -3\text{V}$	100		

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