

# isc Silicon PNP Darlington Power Transistor

MJE702T

## DESCRIPTION

- Collector–Emitter Breakdown Voltage—  
:  $V_{(BR)CEO} = -80\text{ V}$
- DC Current Gain—  
:  $h_{FE} = 750(\text{Min}) @ I_C = -1.5\text{A}$   
=  $100(\text{Min}) @ I_C = -4\text{A}$
- Complement to Type MJE802T
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

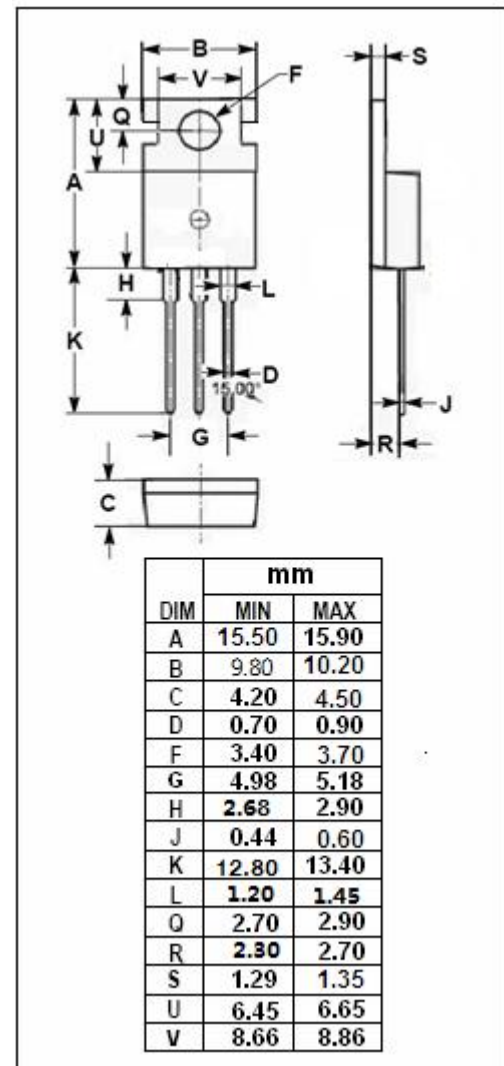
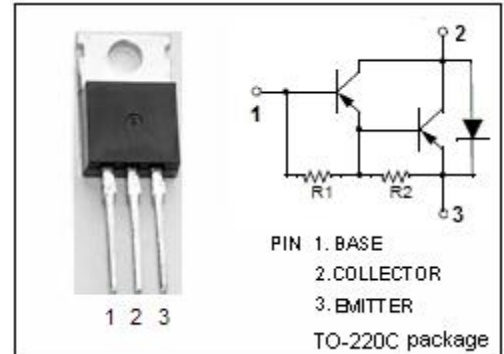
- Designed for general-purpose amplifier and low-speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-80	V
$V_{CEO}$	Collector-Emitter 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 $T_C=25^\circ\text{C}$	50	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	2.5	$^\circ\text{C/W}$



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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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