

# isc Silicon NPN Darlington Power Transistor

MJ4034

## DESCRIPTION

- With TO-3 packaging
- Very high DC current gain
- Monolithic darlington transistor with integrated antiparallel collector-emitter diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

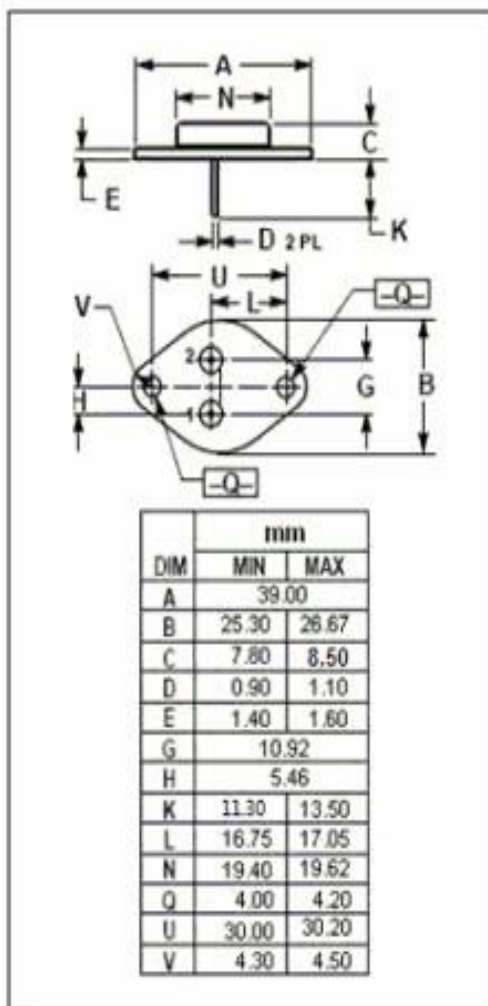
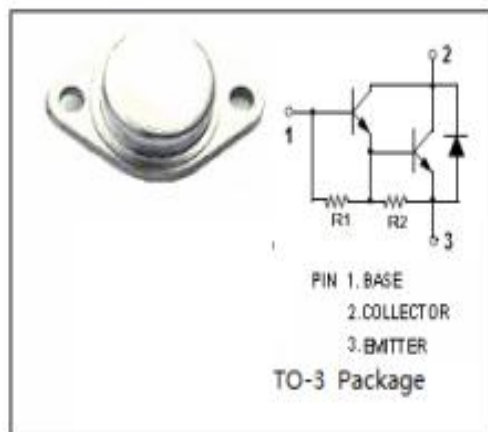
- Electronic ignition
- Alternator regulator
- Motor controls

## 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	15	A
$I_{CM}$	Max.Collector Current-Continuous	20	A
$I_B$	Base Current- Continuous	0.5	A
$P_D$	Collector Power Dissipation	150	W
$T_j$	Max.Junction Temperature	200	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-65~200	$^{\circ}\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\text{-}j\text{-}c}$	Thermal Resistance,Junction to Case	1.17	$^{\circ}\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}$ , $I_B=0$	80		V
$V_{CE(sat)1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$ , $I_B=40\text{mA}$		2.5	V
$V_{CE(sat)2}$	Collector-Emitter Saturation Voltage	$I_C=16\text{A}$ , $I_B=80\text{mA}$		4.0	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}$ , $V_{CE}=3.0\text{V}$		3.0	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=40\text{V}$ , $I_B=0$		3.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}$ ; $I_C=0$		5.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=10\text{A}$ ; $V_{CE}=3\text{V}$	1000		

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