

isc Silicon NPN Darlington Power Transistor
MJ4031
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

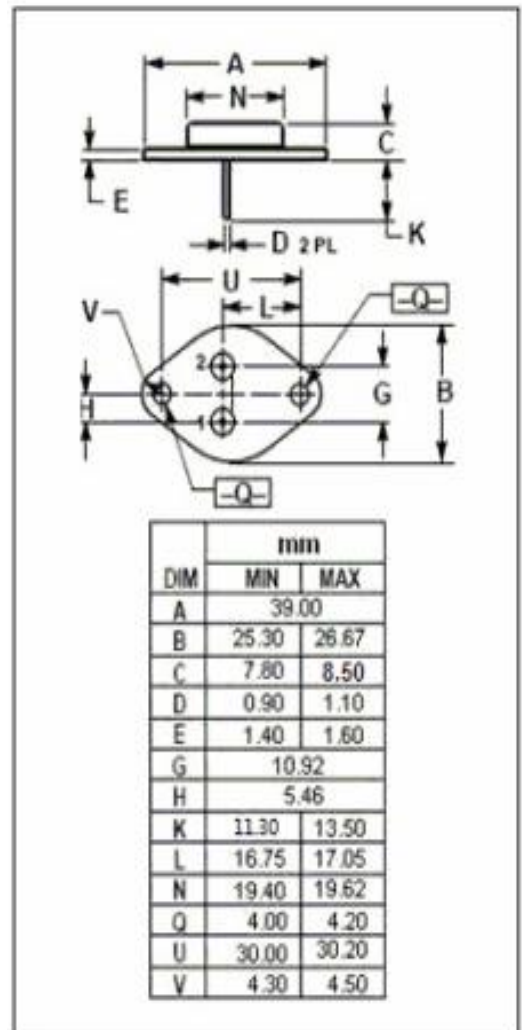
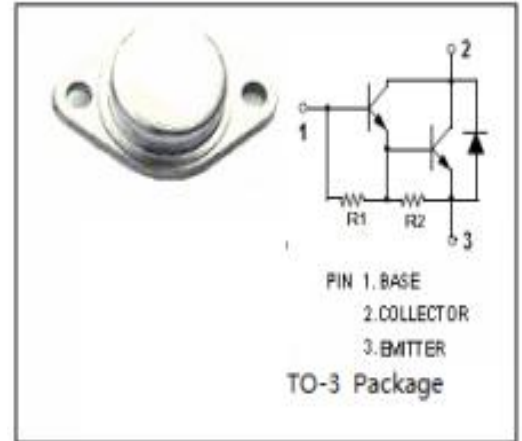
- Electronic ignition
- Alternator regulator
- Motor controls

ABSOLUTE MAXIMUM RATINGS(T_a=25°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	°C
T _{stg}	Storage Temperature Range	-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{thj-c}	Thermal Resistance,Junction to Case	1.17	°C/W



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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	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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