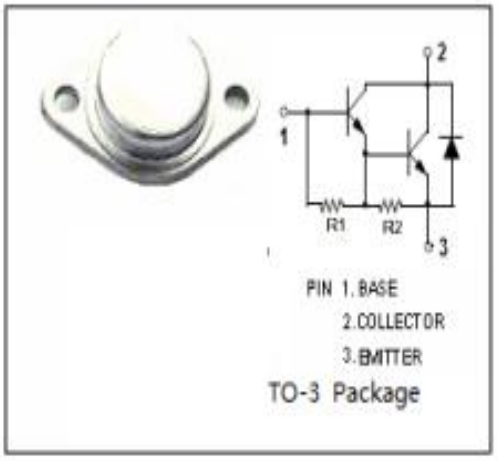
isc Silicon NPN Darlington Power Transistor MJ10023

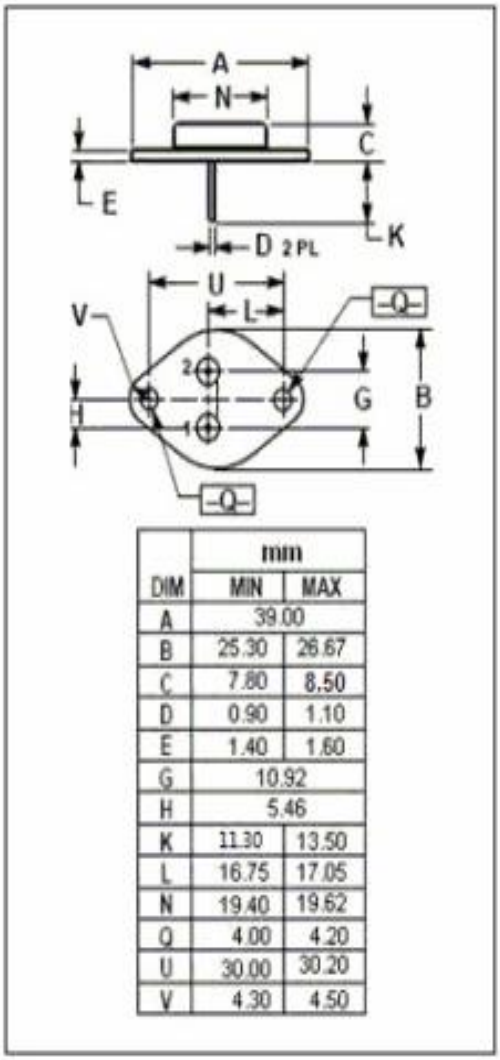
DESCRIPTION

- With TO-3 packaging
- Very high DC current gain
- Fast turn-off times
- 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
- Solenoid and relay drivers
- AC and DC motor controls



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	40	A
I_{CM}	Collector Current-Peak	80	A
I_B	Base Current- Continuous	20	A
P_C	Collector Power Dissipation	250	W
T_j	Max.Junction Temperature	200	℃
T_{stg}	Storage Temperature Range	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.7	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 100mA, I_B= 0	400		V
$V_{CE(sat)1}$	Collector-Emitter Saturation Voltage	I_C= 20A ,I_B= 1.0A		2.2	V
$V_{CE(sat)2}$	Collector-Emitter Saturation Voltage	I_C= 40A ,I_B= 5.0A		5.0	V
$V_{BE(sat)1}$	Base-Emitter Saturation Voltage	I_C= 20A ,I_B= 400mA		2.5	V
$V_{BE(sat)2}$	Base-Emitter Saturation Voltage	I_C= 20A ,I_B= 400mA;Tc=100℃		2.5	V
I_{CER}	Collector Cutoff Current	V_{CB}=600V, I_E= 0;R_{BE}=50mΩ		5.0	mA
I_{CEV}	Collector Cutoff Current	V_{CE}= 400V, I_B= 0;V_{BE}=1.5V		0.25	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 2V; I_C= 0		175	mA
h_{FE}	DC Current Gain	I_C= 10A ; V_{CE}=5V	50	600	