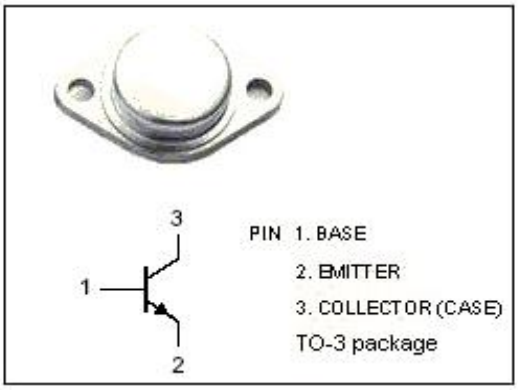
isc Silicon NPN Darlington Power Transistor MJ14002

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

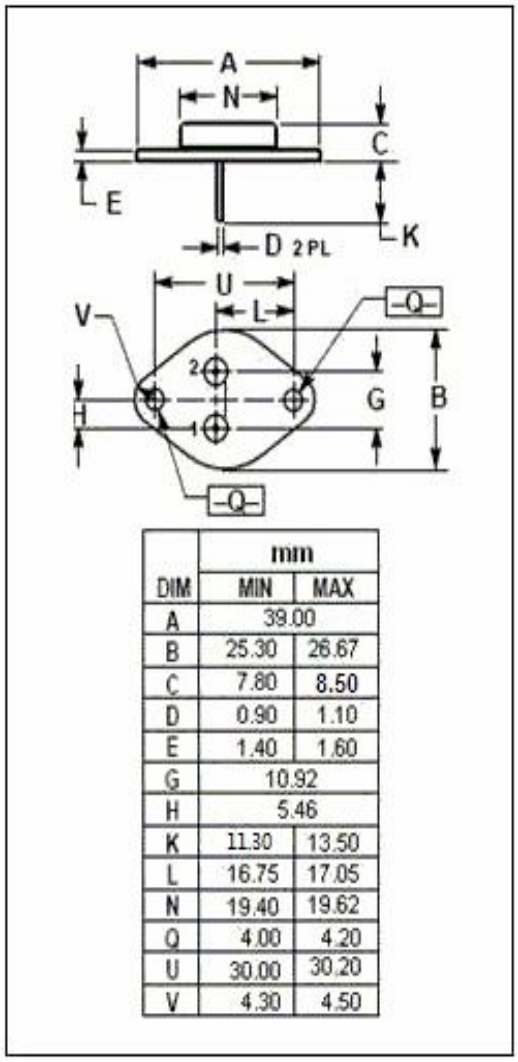
- Electronic ignition
- Alternator regulator
- Motor controls

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	60	A
I_B	Base Current- Continuous	15	A
P_D	Collector Power Dissipation	300	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	0.58	℃/W



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

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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= 250mA, I_B= 0	80		V
$V_{CE(sat)1}$	Collector-Emitter Saturation Voltage	I_C= 25A ,I_B= 2.5A		1.0	V
$V_{CE(sat)2}$	Collector-Emitter Saturation Voltage	I_C= 50A ,I_B= 5.0A		2.5	V
$V_{CE(sat)3}$	Collector-Emitter Saturation Voltage	I_C= 60A ,I_B= 12A		3.0	V
$V_{BE(sat)1}$	Base-Emitter Saturation Voltage	I_C= 25A ,I_B= 2.5A		2	V
$V_{BE(sat)2}$	Base-Emitter Saturation Voltage	I_C= 50A ,I_B= 5.0A		3	V
$V_{BE(sat)3}$	Base-Emitter Saturation Voltage	I_C= 60A ,I_B= 12A		4	V
I_{CBO}	Collector Cutoff Current	V_{CB}=80V, I_E= 0		1.0	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 40V, I_B= 0		1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 25A ; V_{CE}=3V	30		
h_{FE-2}	DC Current Gain	I_C= 50A ; V_{CE}=3V	15	100	
h_{FE-3}	DC Current Gain	I_C= 60A ; V_{CE}=3V	5		