

isc Silicon NPN Darlington Power Transistor
MJ10005
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

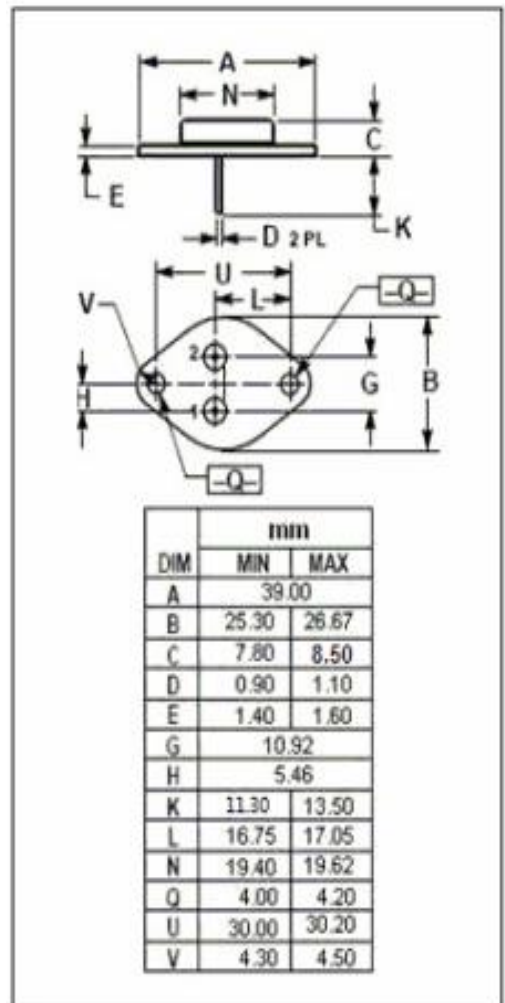
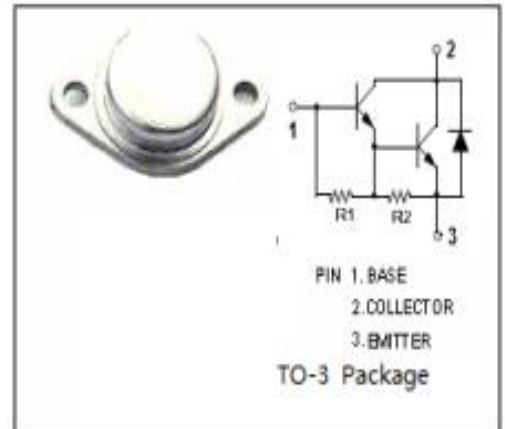
- Electronic ignition
- Alternator regulator
- Motor controls

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	500	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	8	V
I _C	Collector Current-Continuous	20	A
I _{CM}	Collector Current-Peak	30	A
I _B	Base Current- Continuous	2.5	A
P _C	Collector Power Dissipation	175	W
T _j	Max.Junction Temperature	200	°C
T _{stg}	Storage Temperature Range	-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.0	°C/W



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Voltage	Sustaining I _C = 250mA, I _B = 0	400		V
V _{CE(sat)1}	Collector-Emitter Voltage	Saturation I _C = 10A ,I _B = 400mA		1.9	V
V _{CE(sat)2}	Collector-Emitter Voltage	Saturation I _C = 20A ,I _B = 2.0A		3.0	V
V _{BE(sat)1}	Base-Emitter Saturation Voltage	I _C = 10A ,I _B = 400mA		2.5	V
V _{BE(sat)2}	Base-Emitter Saturation Voltage	I _C = 10A ,I _B = 400mA;T _c =100°C		2.5	V
I _{CER}	Collector Cutoff Current	V _{CB} =400V, I _E = 0;R _{BE} =50m Ω		5	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-1}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	50	600	
h _{FE-2}	DC Current Gain	I _C = 10A ; V _{CE} =5V	40	400	

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