

isc Silicon NPN Darlington Power Transistor

MJ10005P

DESCRIPTION

- 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

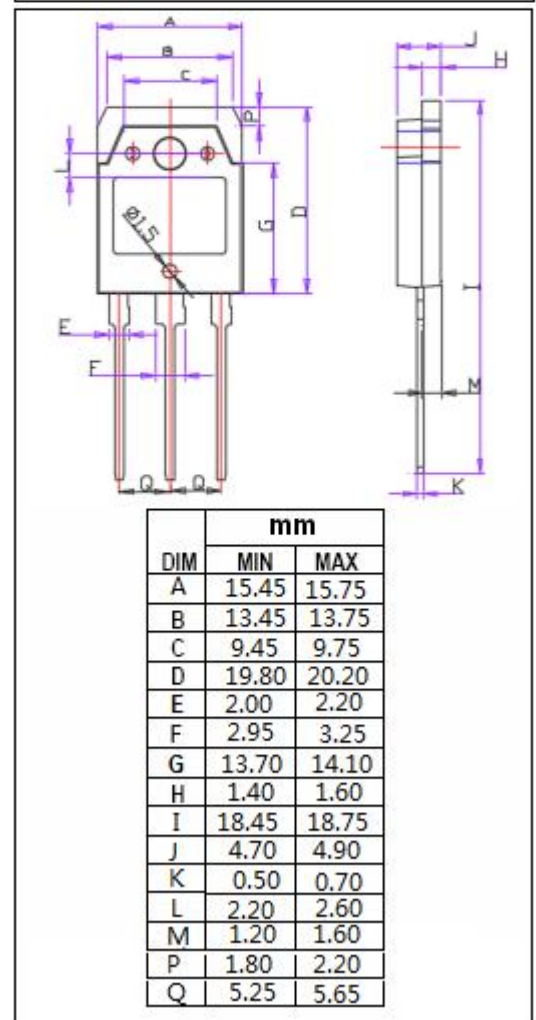
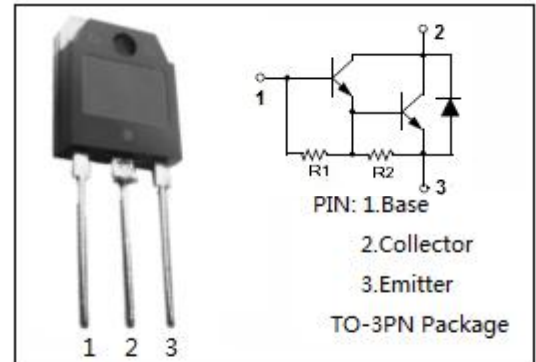
- High power, fast switching applications. 

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

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	125	W
T_j	Max.Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^{\circ}\text{C/W}$



isc Silicon NPN Darlington Power Transistor**MJ10005P****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 250mA, I _B = 0	400		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 10A ,I _B = 400mA		1.9	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	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
I _{CER}	Collector Cutoff Current	V _{CB} =400V, I _E = 0;R _{BE} =50 Ω; T _J =100°C		5	mA
I _{CEV}	Collector Cutoff Current	V _{CE} = 450V, I _B =0,V _{BE} =1.5V V _{CE} = 450V, I _B =0,V _{BE} =1.5V T _J =150°C		0.25 5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 2V; I _C = 0		175	mA
h _{FE}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	300	1800	

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