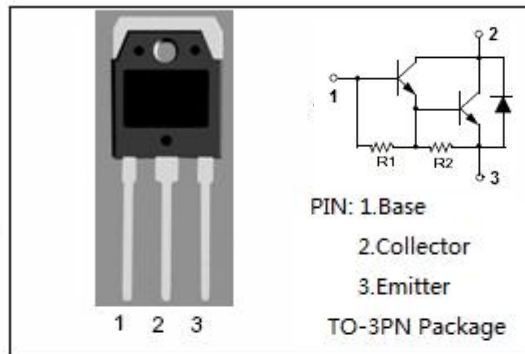


isc Silicon NPN Darlington Power Transistor**MJH11020****DESCRIPTION**

- High DC Current Gain-
: $h_{FE} = 400(\text{Min}) @ I_C = 10A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 200V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 2.5V(\text{Max}) @ I_C = 10A$
= $4.0V(\text{Max}) @ I_C = 15A$
- Complement to Type MJH11019

**APPLICATIONS**

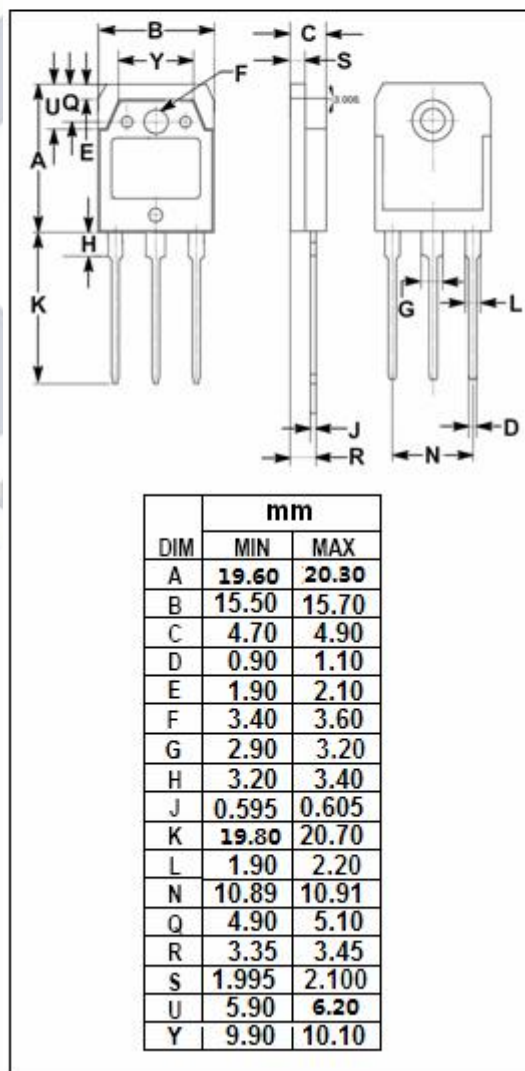
- Designed for general purpose amplifiers ,low frequency switching and motor control applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current- Continuous	0.5	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	150	W
T_j	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	0.83	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**MJH11020****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA, I _B = 0	200			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 10A, I _B = 0.1A			2.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 15A, I _B = 0.15A			4.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A, I _B = 0.15A			3.8	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 10A ; V _{CE} = 5V			2.8	V
I _{CBO}	Collector Cutoff Current	V _{CE} =200V; I _E =0 V _{CE} =200V; I _E =0; T _C =150°C			0.5 5.0	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 200V, I _B =0			1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C =0			2	mA
h _{FE-1}	DC Current Gain	I _C = 10A ; V _{CE} = -5V	400		15000	
h _{FE-2}	DC Current Gain	I _C = 15A ; V _{CE} = -5V	100			
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V, f= 0.1MHz			400	pF

Switching times

t _d	Delay Time	I _C = 10A, V _{CC} = 100V; I _B = 0.1A; V _{BE(off)} = 5V; Duty Cycle ≤ 2.0%		150		ns
t _r	Rise Time			1.2		μs
t _s	Storage Time			4.4		μs
t _f	Fall Time			2.5		μs