

isc Silicon NPN Power Transistor

MJW16018

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V(\text{Min})$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high-voltage ,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line operated switch-mode applications.

Typical applications:

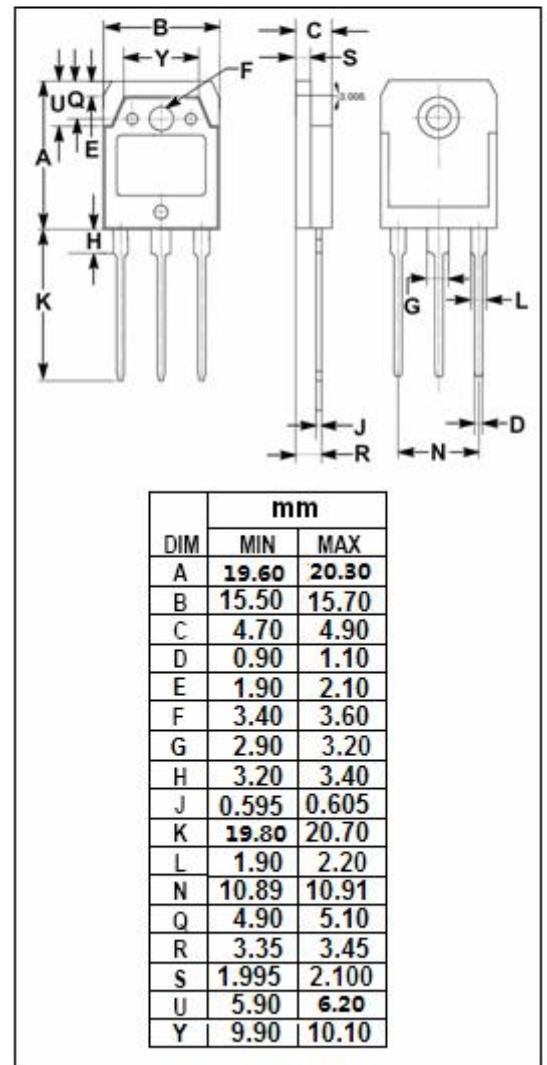
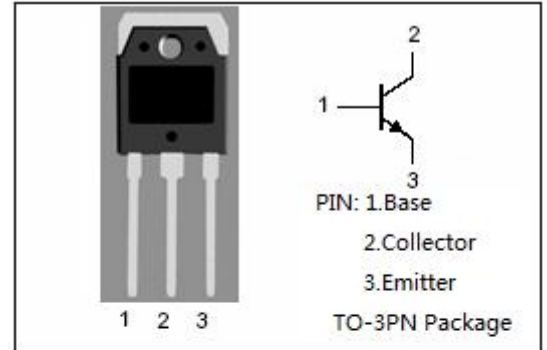
- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	1500	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	8	A
I_{BM}	Base Current-Peak	12	A
P_C	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	125	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



isc Silicon NPN Power Transistor**MJW16018****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA ; I _B =0	800			V
V _{CE(sat)} -1	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 2A I _C = 5A; I _B = 2A, T _C =100°C			1.0 1.5	V
V _{CE(sat)} -2	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 5A			5.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 2A I _C = 5A; I _B = 2A, T _C =100°C			1.5 1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB0} =1500V; I _E =0 V _{CB0} =1500V; I _E =0; T _C =100°C			0.25 1.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C =0			0.1	mA
h _{FE}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	4			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} =1.0kHz		450		pF

Pulsed Test: Pulse duration = 300 ms, duty cycle ≤ 2%

Switching Times

t _d	Delay Time	I _C = 5A ; I _{B1} =-I _{B2} = 2A; V _{CC} = 250V			0.2	μs
t _r	Rise Time				2.0	μs
t _s	Storage Time				9.0	μs
t _f	Fall Time				0.4	μs

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