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Silicon NPN Power Transistor

MJW16018

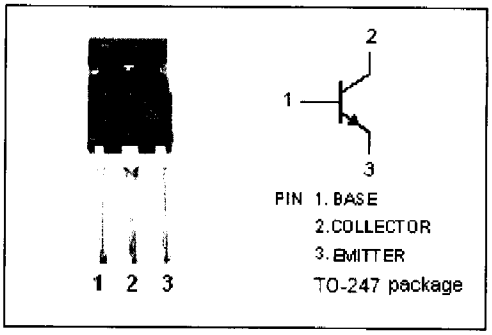
DESCRIPTION

- Collector-Emitter Voltage-
  : $V_{CEO(SUS)}$= 800V(Min)
- Fast Turn-Off Time

APPLICATIONS

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

- Switching Regulators
- Inverters
- Solenoids
- Relay Drivers
- Motor Controls
- Deflection Circuits

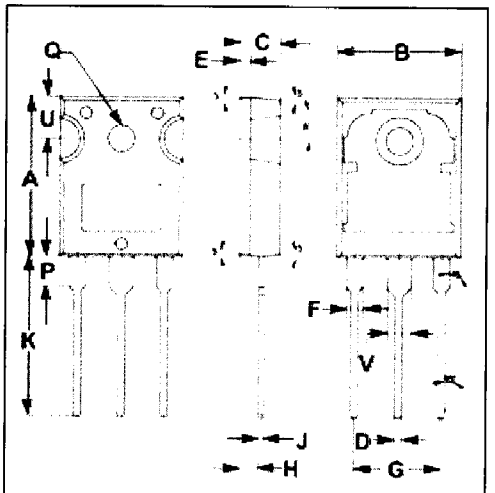


ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter 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℃	125	W
	Collector Power Dissipation @T_C=100℃	50	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{(th)j-c}$	Thermal Resistance,Junction to Case	1.0	℃/W



DIM	mm MIN	MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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 T_C=100℃			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 T_C=100℃			1.5 1.5	V
I_{CEV}	Collector Cutoff Current	V_{CEV}=1500V,$V_{BE(off)}$=1.5V T_C=100℃			0.25 1.50	mA
I_{CER}	Collector Cutoff Current	V_{CE}=1500V; R_{BE}=50Ω T_C=100℃			2.5	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	f=1kHz ; V_{CB}=10V			450	pF

Switching times; Resistive load

t_d	Delay Time	I_C=5A; I_{B1}= I_{B2}= 2A; V_{CC}= 250V ,R_{B2}= 3Ω ; PW=25μs Duty Cycle≤2%		0.085	0.2	μs
t_r	Rise Time			0.9	2	μs
t_s	Storage Time			4.5	9	μs
t_f	Fall Time			0.2	0.4	μs