

SPTECH Silicon NPN Power Transistor

MJ16012

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$
- High Switching Speed

APPLICATIONS

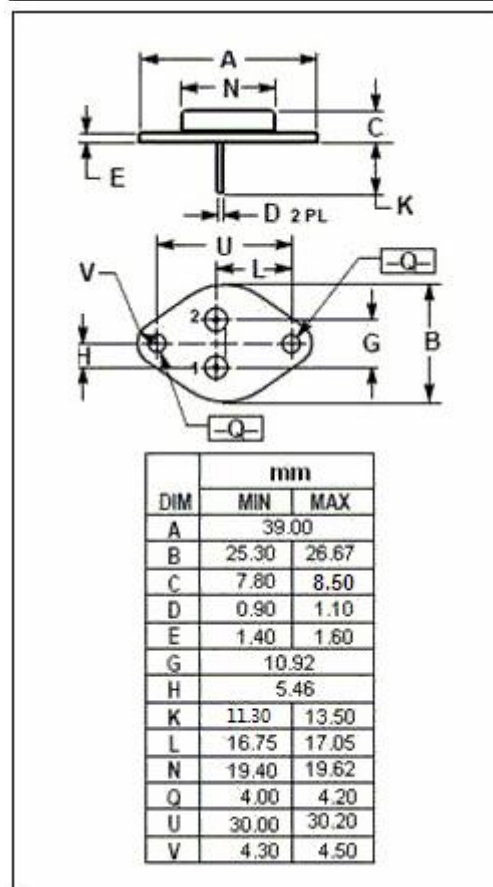
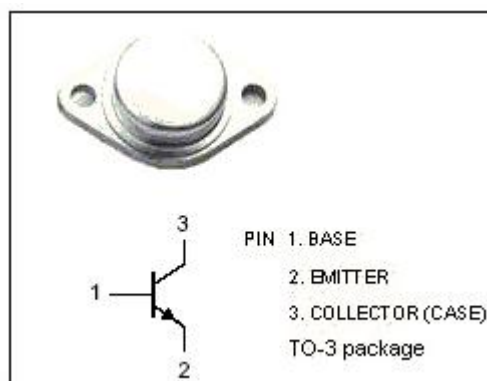
Designed for high-voltage, high-speed, power switching in inductive circuits where fall time is critical. It is particularly suited for line-operated switchmode applications such as: switching regulators, inverters, solenoids, relay drivers, motor controls and deflection circuits and etc.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	850	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-peak	20	A
I_B	Base Current-Continuous	10	A
I_{BM}	Base Current-peak	15	A
P_C	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	175	W
T_j	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}; I_B = 0$	450			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}; I_B = 0.5\text{A}$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 1.0\text{A}$ $I_C = 10\text{A}; I_B = 1.0\text{A}; T_C = 100^{\circ}\text{C}$			3.0 3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 1.0\text{A}$ $I_C = 10\text{A}; I_B = 1.0\text{A}; T_C = 100^{\circ}\text{C}$			1.5 1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 850\text{V}; I_E = 0$ $V_{CB} = 850\text{V}; I_E = 0; T_C = 100^{\circ}\text{C}$			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 6\text{V}; I_C = 0$			10	mA
h_{FE}	DC Current Gain	$I_C = 15\text{A}; V_{CE} = 5\text{V}$	7			
C_{OB}	Output Capacitance	$V_{CB} = 10\text{V}; I_E = 0; f_{test} = 1.0\text{kHz}$			400	pF