

Silicon NPN Power Transistor

MJ15011

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} = 20(\text{Min.}) @ I_C = 2A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 2.5V(\text{Max}) @ I_C = 4A$
- Complement to Type MJ15012

APPLICATIONS

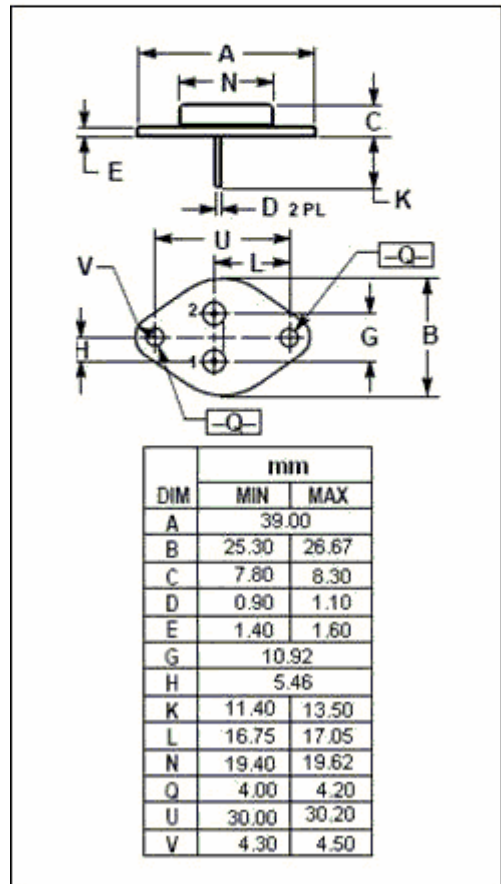
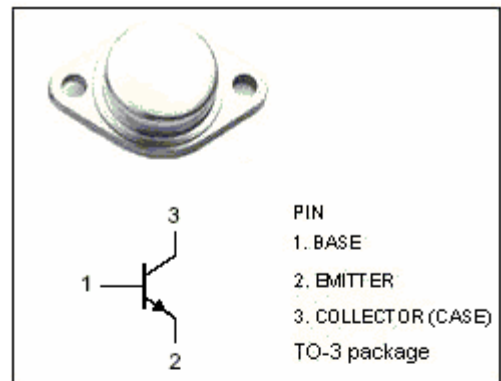
- Designed for high power audio, disk head positioners , and other linear applications. These devices can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters or inverters.

ABSOLUTE MAXIMUM RATINGS($T_a=25$)

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEO(\text{SUS})}$	Collector-Emitter Voltage	250	V
V_{CEX}	Collector-Emitter Voltage	250	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	5	A
I_E	Emitter Current-Continuous	-12	A
I_{EM}	Emitter Current-Peak	-20	A
P_D	Total Power Dissipation@ $T_C=25$	200	W
T_j	Junction Temperature	200	
T_{stg}	Storage Temperature	-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th } j-c}$	Thermal Resistance, Junction to Case	0.875	/W



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ELECTRICAL CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 0.1A ; I _B = 0	250		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.2A		0.8	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A		2.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 4A ; V _{CE} = 2V		2.0	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 200V; I _B = 0		1.0	mA
I _{CEX}	Collector Cutoff Current	V _{CE} = 250V; V _{BE(off)} = 1.5V		0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		0.5	mA
h _{FE-1}	DC Current Gain	I _C = 2A ; V _{CE} = 2V	20	100	
h _{FE-2}	DC Current Gain	I _C = 4A ; V _{CE} = 2V	5		
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V; f _{test} = 1.0MHz		750	pF