

SPTECH Silicon PNP Power Transistor

MJ15016

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} = 20-70 @ I_C = -4A, V_{CE} = -4V$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = -1.1 V(Max) @ I_C = -4A$
- Complement to the NPN MJ15015

APPLICATIONS

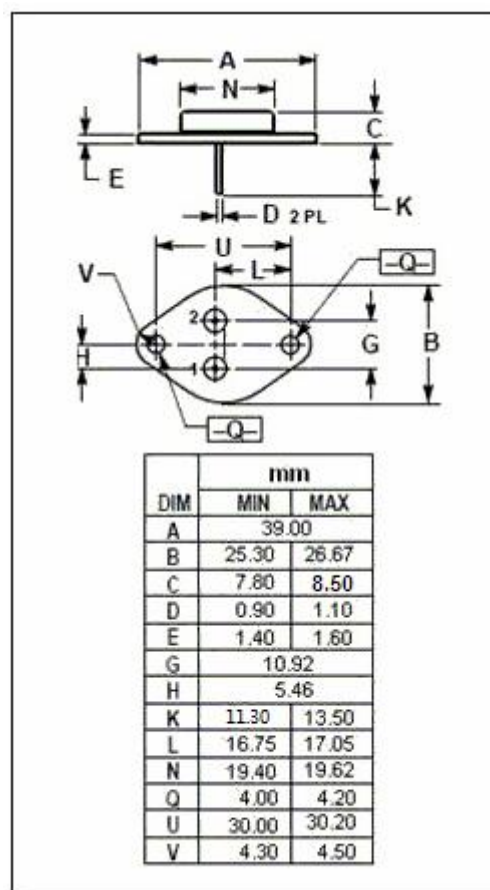
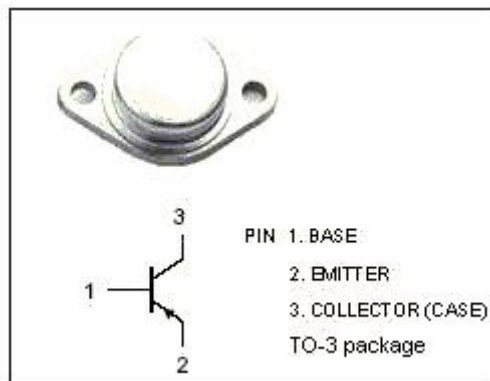
- Designed for high power audio, stepping motor and other linear applications, and can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters, inverters and etc.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-200	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-15	A
I_B	Base Current	-7	A
P_D	Total Power Dissipation@ $T_C = 25^\circ C$	180	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.98	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -50\text{mA}$; $I_B = 0$	-120		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}$; $I_B = -0.4\text{A}$		-1.1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{A}$; $I_B = -3.3\text{A}$		-3.0	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = -15\text{A}$; $I_B = -7.0\text{A}$		-5.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -4\text{A}$; $V_{CE} = -4\text{V}$		-1.8	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -60\text{V}$; $V_{BE(OFF)} = 0$		-0.1	mA
I_{CBO}	Collector Cutoff Current	$V_{CE} = 200$; $I_E = 0$ $V_{CE} = 200$; $I_E = 0$; $T_C = 150^{\circ}\text{C}$		-1 -5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -7\text{V}$; $I_C = 0$		-0.2	mA
h_{FE-1}	DC Current Gain	$I_C = -4\text{A}$; $V_{CE} = -2\text{V}$	10	70	
h_{FE-2}	DC Current Gain	$I_C = -4\text{A}$; $V_{CE} = -4\text{V}$	20	70	
h_{FE-3}	DC Current Gain	$I_C = -10\text{A}$; $V_{CE} = -4\text{V}$	5		
$I_{s/b}$	Second Breakdown Collector Current with Base Forward Biased	$V_{CE} = -60\text{V}$, $t = 0.5\text{ s}$, Nonrepetitive	-3		A
C_{OB}	Output Capacitance	$I_E = 0$; $V_{CB} = -10\text{V}$; $f_{test} = 1.0\text{MHz}$	300		pF
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}$; $V_{CE} = -4\text{V}$; $f_{test} = 1.0\text{MHz}$	2.2		MHz