

# SPTECH Product Specification

## SPTECH Silicon NPN Power Transistor

MJW0281A

### DESCRIPTION

- High DC current amplifier rate  
 $h_{FE}: 50-200 @ V_{CE} = 5V, I_C = 1A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

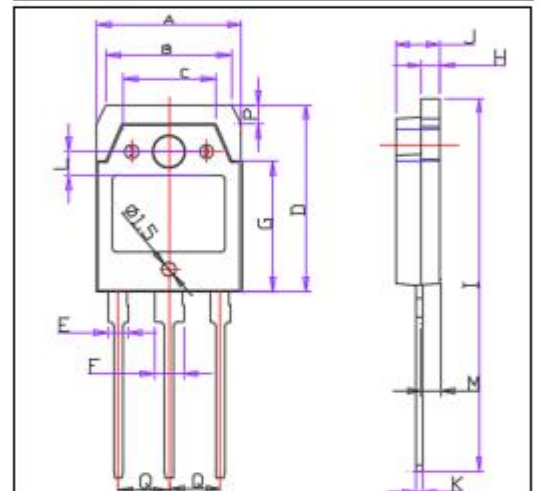
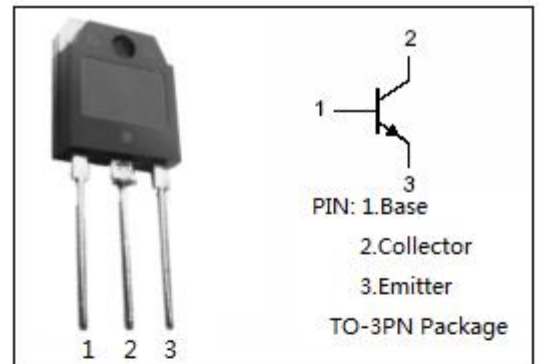
- High power audio, disk head positioners and other linear applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	250	V
$V_{CEO}$	Collector-Emitter Voltage	250	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	15	A
$I_{CP}$	Collector Current-Pulse	30	A
$I_B$	Base Current-Continuous	1.5	A
$P_C$	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	150	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{thj-c}$	Thermal Resistance, Junction to Case	0.63	$^\circ\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	15.45	15.75
B	13.45	13.75
C	9.45	9.75
D	19.80	20.20
E	2.00	2.20
F	2.95	3.25
G	13.70	14.10
H	1.40	1.60
I	18.45	18.75
J	4.70	4.90
K	0.50	0.70
L	2.20	2.60
M	1.20	1.60
P	1.80	2.20
Q	5.25	5.65

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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	$I_C=100\text{mA}$ ; $I_B=0$	250		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 10\text{A}$ ; $I_B= 1\text{A}$		2	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	$I_C= 8\text{A}$ ; $V_{CE}= 5\text{V}$		2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 250\text{V}$ ; $I_E=0$		50	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 5\text{V}$ ; $I_C=0$		5	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C= 100\text{mA}$ ; $V_{CE}= 5\text{V}$	75	150	
$h_{FE-2}$	DC Current Gain	$I_C= 1\text{A}$ ; $V_{CE}= 5\text{V}$	75	150	
$h_{FE-3}$	DC Current Gain	$I_C= 8\text{A}$ ; $V_{CE}= 5\text{V}$	75		
$h_{FE-4}$	DC Current Gain	$I_C= 15\text{A}$ ; $V_{CE}= 5\text{V}$	12		