

SPTECH Silicon PNP Power Transistor

MJ15004

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 25(\text{Min}) @ I_C = -5\text{A}$
- Wide Area of Safe Operation
- Complement to Type MJ15003

APPLICATIONS

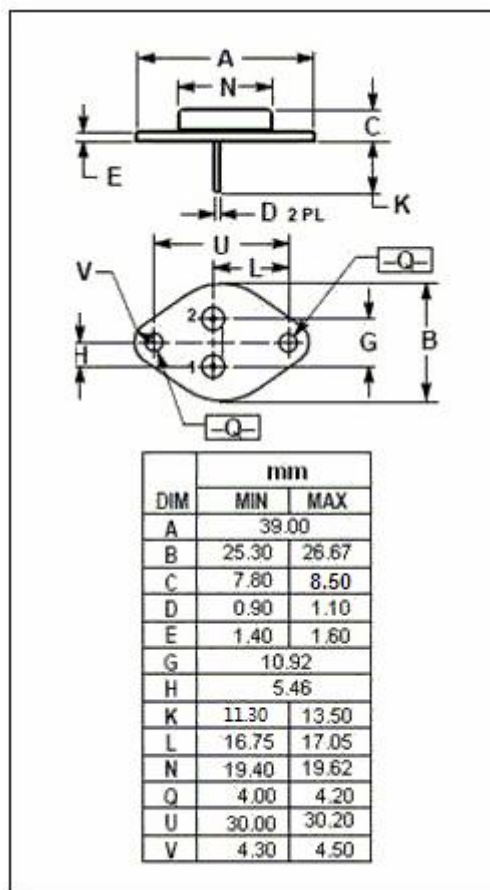
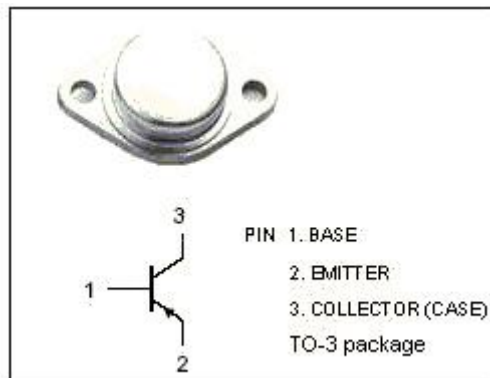
- For high power audio, disk head positioners and other linear applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-140	V
V_{CEO}	Collector-Emitter Voltage	-140	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-20	A
I_B	Base Current-Continuous	-5	A
P_D	Total Power Dissipation@ $T_c = 25^\circ\text{C}$	250	W
T_j	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.7	$^\circ\text{C/W}$



SPTECH Silicon PNP Power Transistor

MJ15004

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -50\text{mA}$; $I_B = 0$	-140		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}$; $I_B = -0.5\text{A}$		-1	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}$; $V_{CE} = -2\text{V}$		-2	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -140\text{V}$; $I_B = 0$		-0.25	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -140\text{V}$; $I_E = 0$ $V_{CB} = -140\text{V}$; $I_E = 0$; $T_C = 150^{\circ}\text{C}$		-0.1 -2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$		-0.1	mA
h_{FE}	DC Current Gain	$I_C = -5\text{A}$; $V_{CE} = -2\text{V}$	25	150	
$I_{S/b}$	Second Breakdown Collector Current with Base Forward Biased	$V_{CE} = -100\text{Vdc}$, $t = 1\text{s}$, Nonrepetitive	-1		A
C_{OB}	Output Capacitance	$I_E = 0$; $V_{CB} = -10\text{V}$; $f_{test} = 0.5\text{MHz}$		1000	pF
f_T	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}$; $V_{CE} = -10\text{V}$; $f_{test} = 0.5\text{MHz}$	2		MHz