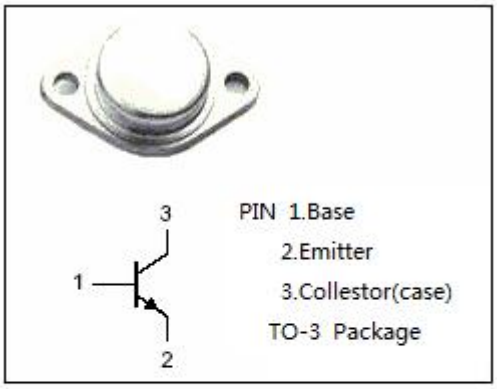
SPTECH Silicon NPN Power Transistor

DESCRIPTION

- Excellent Safe Operating Area
- High DC Current Gain-h_{FE}= 15(Min)@I_C = 8A
- Low Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max)@ I_C = 10A
- Complement to Type 2N6031

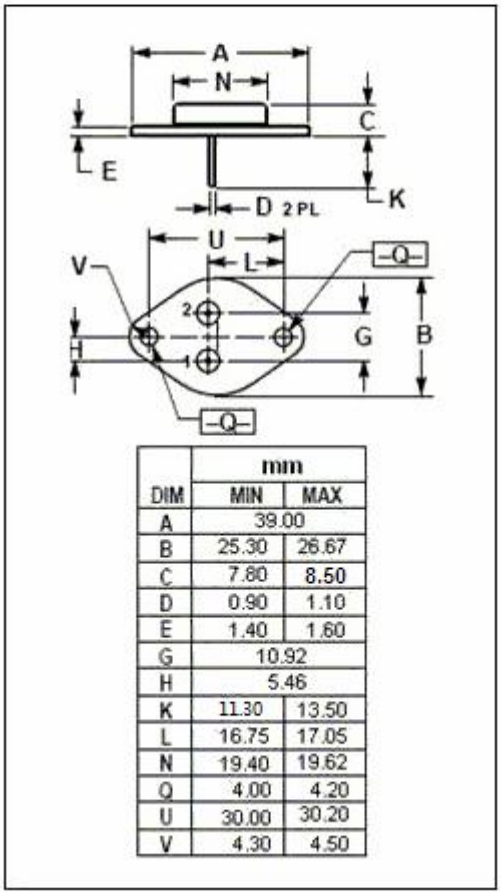


APPLICATIONS

- Designed for use in high power audio amplifier applications and high voltage switching regulator circuits.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	16	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @T_C=25℃	200	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-65~150	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

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

SPTECH Silicon NPN Power Transistor

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA ; I_B= 0	140		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 16A; I_B= 4A		2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 1A		1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 8A ; V_{CE}= 2V		1.5	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 70V; I_B= 0		2.0	mA
I_{CBO}	Collector Cutoff Current	V_{CB}= 140V; I_E= 0		2.0	mA
I_{CEX}	Collector Cutoff Current	V_{CE}= 140V; $V_{BE(off)}$= 1.5V V_{CE}= 140V; $V_{BE(off)}$= 1.5V,T_C=150℃		2.0 7.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7.0V; I_C= 0		5.0	mA
h_{FE-1}	DC Current Gain	I_C= 8A ; V_{CE}= 2V	15	60	
h_{FE-2}	DC Current Gain	I_C= 16A ; V_{CE}= 2V	4		
f_T	Current Gain-Bandwidth Product	I_C= 1A; V_{CE}= 20V; f= 0.5MHz	1.0		MHz
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 0.1MHz		500	pF