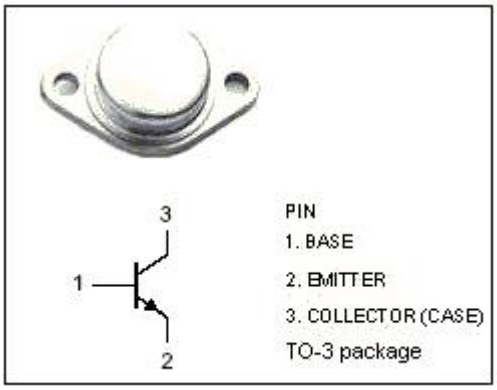
SPTECH Silicon NPN Power Transistor

DESCRIPTION

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



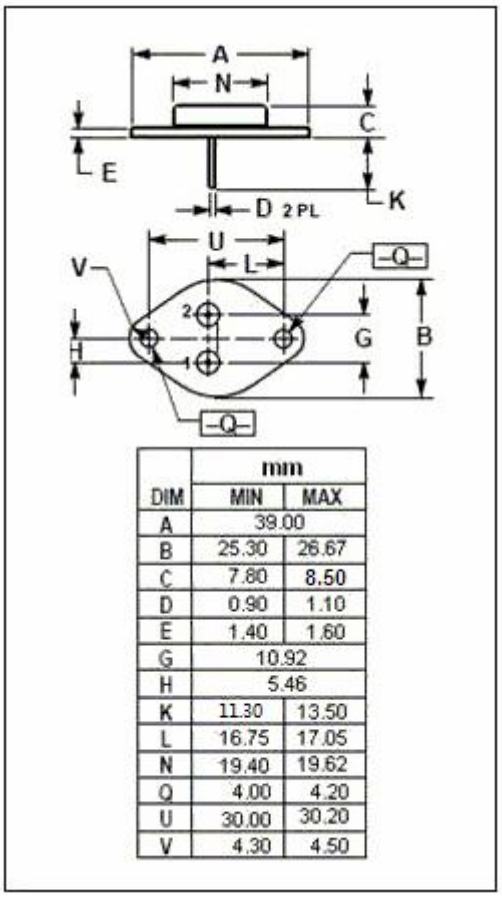
APPLICATIONS

- Designed for general-purpose switching and amplifier applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@T_C=25℃	117	W
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55~+200	℃

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.52	℃/W



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

SPTECH Silicon NPN Power Transistors

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	60		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.4A		1.1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 3.3A		3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 4A ; V_{CE}= 4V		1.5	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 30V; I_B=0		0.7	mA
I_{CBO}	Collector Cutoff Current	V_{CE}= 100V; I_E=0,T_C=150℃		1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7.0V; I_C=0		5.0	mA
h_{FE-1}	DC Current Gain	I_C= 4A ; V_{CE}= 4V	20	70	
h_{FE-2}	DC Current Gain	I_C= 10A ; V_{CE}= 4V	5.0		
$I_{s/b}$	Second Breakdown Collector Current with Base Forward Biased	V_{CE}= 40V,t= 1.0s,Nonrepetitive	2.87		A
f_T	Current Gain-Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V;f=1.0MHz	2.0		MHz