SPTECH Silicon NPN Power Transistor

DESCRIPTION

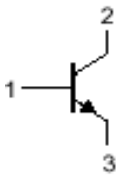
- Low Collector Saturation Voltage
  :$V_{CE(sat)}$= 0.5(V)(Max)@I_C= 5A
- Good Linearity of h_{FE}

APPLICATIONS

- Designed for chopper regulator, switch and general purpose applications

2SC4131(NPN)





1 2 3

PIN 1.B
2.C
3.E

PACKAGE TO-3PH

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	15	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	25	A
I_B	Base Current-Continuous	4	A
P_C	Collector Power Dissipation @ T_C=25℃	60	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

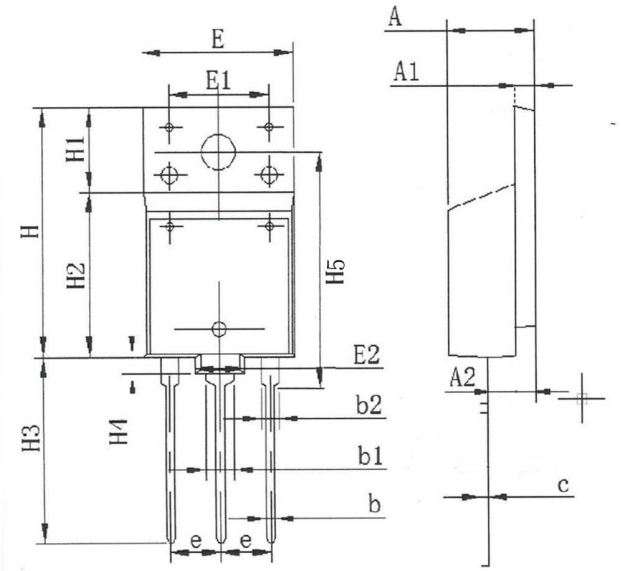
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 25mA ; I_B= 0	50			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= -80mA			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 80mA			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V ; I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			10	μA
h_{FE}	DC Current Gain	I_C= 5A ; V_{CE}= 1V	50		360	
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= -10V;f= 1.0MHz		210		pF
f_T	Current-Gain—Bandwidth Product	I_E= 1A ; V_{CE}= 12V		25		MHz

Switching Times

t_{on}	Turn-on Time	I_C= 5A , R_L= 4Ω , I_{B1}= I_{B2}= 80mA,V_{CC}20V		0.5		μs
t_{stg}	Storage Time			2.0		μs
t_f	Fall Time			0.3		μs

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PACKAGE:TO-3PH



Symbol	mm		
	Min	Nom	Max
A	5.35	5.55	5.75
A1	2.80	3.00	3.20
A2	3.10	3.30	3.50
b	0.780	0.90	1.00
b1	1.80	2.00	2.20
b2	1.80	2.00	2.20
c	0.70	0.90	1.10
e	5.25	5.45	5.65
E	15.2	15.4	15.6
E1	9.80	10.0	10.2
H	24.3	24.5	24.7
H1	9.80	10.0	10.2
H2	14.3	14.5	14.7
H3	18.5	19.0	19.5
H4	2.00	2.20	2.40
H5	24.8	25.0	25.3
E2	3.80	4.00	4.20
G	4.5	4.7	4.9
ΦP	3.30	3.50	3.70