# **SPTECH Silicon NPN Power Transistor**

# 2SC4110

### DESCRIPTION

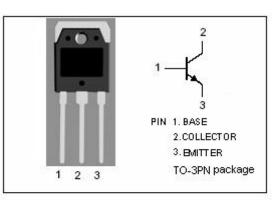
- High Collector-Emitter Breakdown Voltage-
  - : V<sub>(BR)CEO</sub>= 400V(Min)
- High Switching Speed
- Wide Area of Safe Operation

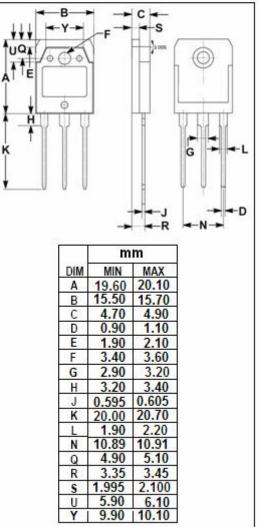
### **APPLICATIONS**

• Designed for switching regulator and general purpose applications.

### ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT	
V <sub>CBO</sub>	Collector-Base Voltage	500	V	
VCEO	Collector-Emitter Voltage	400	V	
V <sub>EBO</sub>	Emitter-Base voltage	7	V	
Ic	Collector Current-Continuous	25	А	
I <sub>CM</sub>	M Collector Current-Peak PW≤300μs, duty cycle≤10% 40		А	
I <sub>B</sub>	Base Current-Continuous		А	
	Collector Power Dissipation @ $T_c$ =25 °C	160	W	
Pc	Collector Power Dissipation @ T <sub>a</sub> =25°C	2.5		
TJ	Junction Temperature		Ĉ	
T <sub>stg</sub>	T <sub>stg</sub> Storage Temperature Range		°C	





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### **ELECTRICAL CHARACTERISTICS**

#### Tc=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	500			V
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA; R <sub>BE</sub> = ∞	400			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1m A; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 16A; I <sub>B</sub> = 3.2A			0.8	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 16A; I <sub>B</sub> = 3.2A			1.5	V
Ісво	Collector Cutoff Current	V <sub>CB</sub> = 400V ; I <sub>E</sub> = 0			10	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 3.2A ; V <sub>CE</sub> = 5V	15		50	
h <sub>FE-2</sub>	DC Current Gain	Ic= 16A ; Vce= 5V	10			
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 10mA ; V <sub>CE</sub> = 5V	10			
f⊤	Current-Gain—Bandwidth Product	I <sub>C</sub> = 3.2A ; V <sub>CE</sub> = 10V		20		MHz
Сов	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1.0MHz		300		pF

Switching Times

t <sub>on</sub>	Turn-on Time			0.5	μs
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 20A, I <sub>B1</sub> = 4A; I <sub>B2</sub> = -8A R <sub>L</sub> = 10 Ω ; V <sub>CC</sub> = 200V		2.5	μs
t <sub>f</sub>	Fall Time			0.3	μs

#### • h<sub>FE-1</sub> Classifications

L	М	N
15-30	20-40	30-50

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