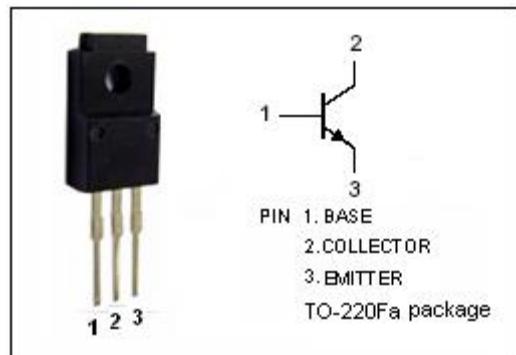


## SPTECH Silicon NPN Power Transistor

2SC3710

**DESCRIPTION**

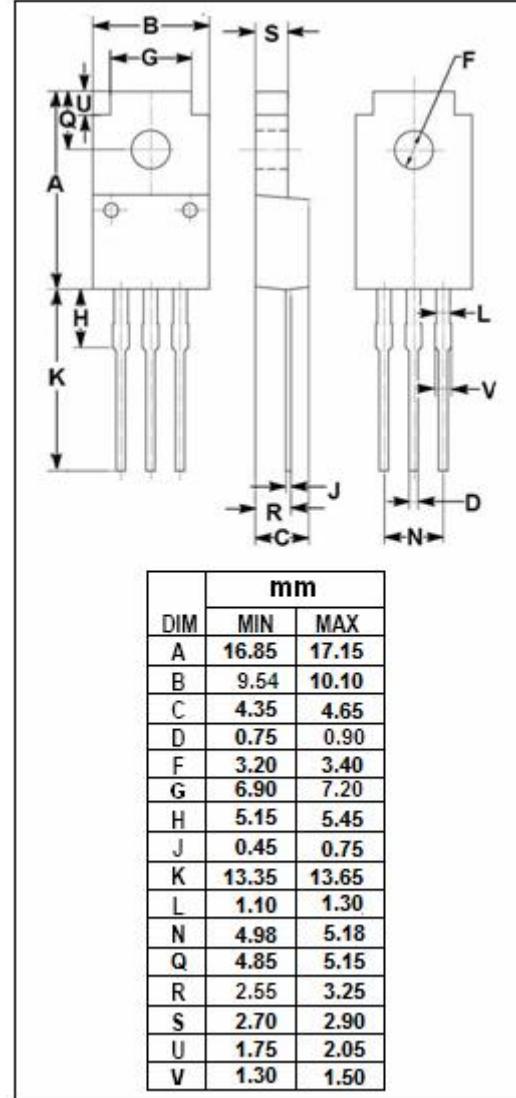
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 0.4V(\text{Max}) @ I_C = 6A$
- Good Linearity of  $h_{FE}$
- High Switching Speed
- Complement to Type 2SA1452

**APPLICATIONS**

- Designed for high current switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	12	A
$I_B$	Base Current-Continuous	2	A
$P_c$	Collector Power Dissipation $@ T_c=25^\circ\text{C}$	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



# SPTECH Product Specification

## SPTECH Silicon NPN Power Transistor

**2SC3710**

### ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 50mA ; I <sub>B</sub> = 0	80			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.3A			0.4	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.3A			1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 80V ; I <sub>E</sub> = 0			10	µ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V ; I <sub>C</sub> = 0			10	µ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 1V	70		240	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 6A ; V <sub>CE</sub> = 1V	40			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1MHz		220		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V		80		MHz

### Switching Times

t <sub>on</sub>	Turn-on Time		0.2		µ s
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 6A , I <sub>B1</sub> = -I <sub>B2</sub> = 0.3A, V <sub>CC</sub> = 30V, R <sub>L</sub> = 5 Ω	1.0		µ s
t <sub>f</sub>	Fall Time		0.2		µ s

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

O	Y
70-140	120-240

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