# **SPTECH Silicon NPN Power Transistors**

## **D44H11**

#### **DESCRIPTION**

- Low Collector-Emitter Saturation Voltage
  - :  $V_{CE(sat)}$ = 1.0V(Max)@  $I_C$  = 8A
- · Fast Switching Speeds
- Complement to Type D45H11
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### **APPLICATIONS**

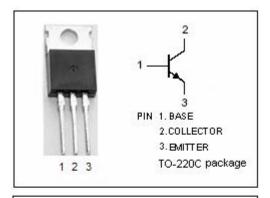
 Designed for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifier.

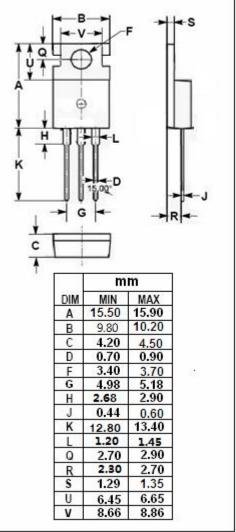
## ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEO</sub>	Collector-Emitter Voltage	80	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
Ic	Collector Current-Continuous	10	А
I <sub>CM</sub>	Collector Current-Peak	20	А
Pc	Collector Power Dissipation @T <sub>C</sub> =25°C 50		W
T <sub>j</sub>	Junction Temperature	-55~150	$^{\circ}$
T <sub>stg</sub>	Storage Temperature Range	-55~150	$^{\circ}$

#### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	2.5	°C/W
R <sub>th j-a</sub>	R <sub>th j-a</sub> Thermal Resistance, Junction to Ambient		°C/W





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## **ELECTRICAL CHARACTERISTICS**

 $T_{\text{c}}$ =25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-EmitterSaturation Voltage	I <sub>C</sub> = 8A ;I <sub>B</sub> = 0.4 A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A ;I <sub>B</sub> = 0.8 A			1.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> =Rated V <sub>CEO</sub> ; V <sub>BE</sub> = 0			10	μА
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			100	μ <b>A</b>
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 1V	60			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 1V	40			
Сов	Output Capacitance	V <sub>CB</sub> = 10V,f= 1.0MHz		130		pF
f⊤	Current-Gain—Bandwidth Product	I <sub>C</sub> =0.5A;V <sub>CE</sub> = 10V;f <sub>test</sub> =20MHz		50		MHz

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