

SPTECH Silicon NPN Power Transistor

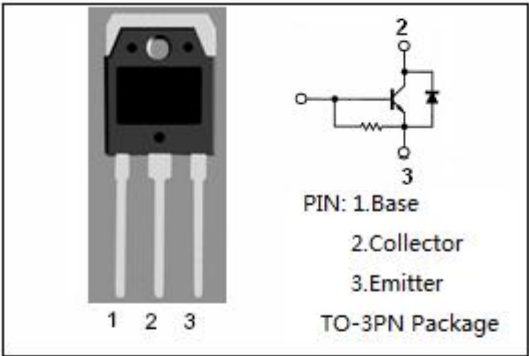
BU508D

DESCRIPTION

- High Voltage
- High Switching Speed
- Built-in damper diode

APPLICATIONS

- Designed for use in horizontal deflection circuits of colour TV receivers.

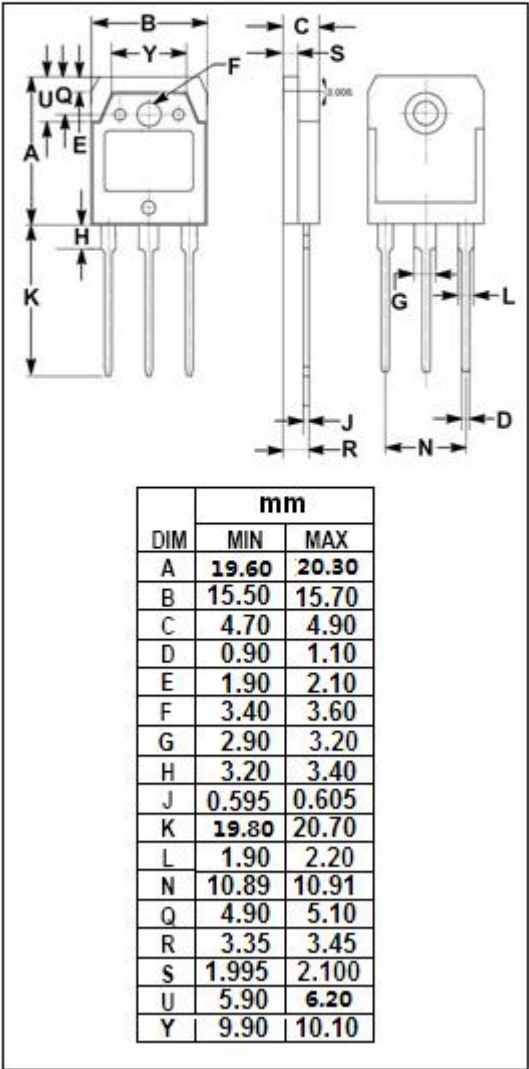


ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	5	V
I_{C}	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	8	A
I_{B}	Base Current-Continuous	2.5	A
P_{C}	Collector Power Dissipation @ $T_{\text{C}}=25^{\circ}\text{C}$	125	W
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65-150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th j-c}}$	Thermal Resistance, Junction to Case	1.0	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

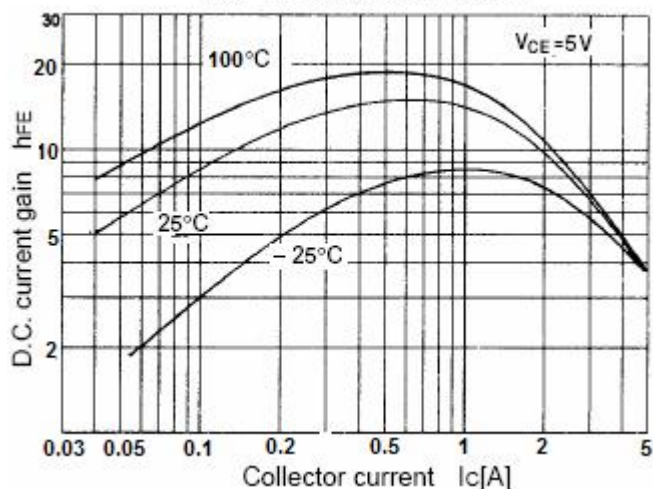
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	700			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2\text{A}$			1.5	V
h_{FE}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	8			
I_{CES}	Collector Cutoff Current	$V_{CE}=1500\text{V}; V_{BE}=0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			300	mA
V_{ECF}	C-E Diode Forward Voltage	$I_F=4\text{A}$			2	V
f_T	Transition Frequency	$I_C=0.1\text{A}; V_{CE}=5\text{V}$		4		MHz
Cob	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=1\text{MHz}$		125		pF

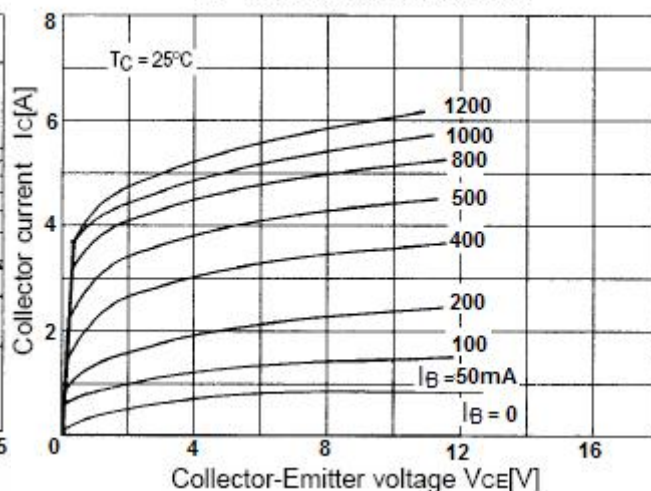
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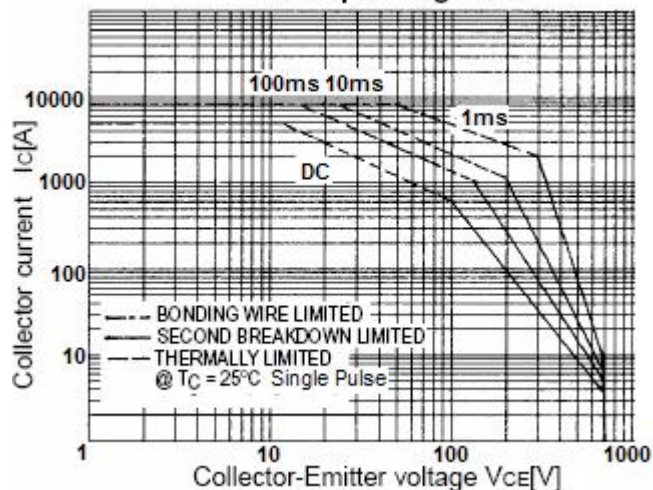
h_{FE} - I_C Characteristics



I_C - V_{CE} Characteristics



Safe Operating Area



Power Derating

