

SPTECH Silicon NPN Power Transistor

2SC3866

DESCRIPTION

- High Breakdown Voltage
: $V_{(BR)CBO} = 900V(\text{Min})$
- High Switching Speed
- High Reliability

APPLICATIONS

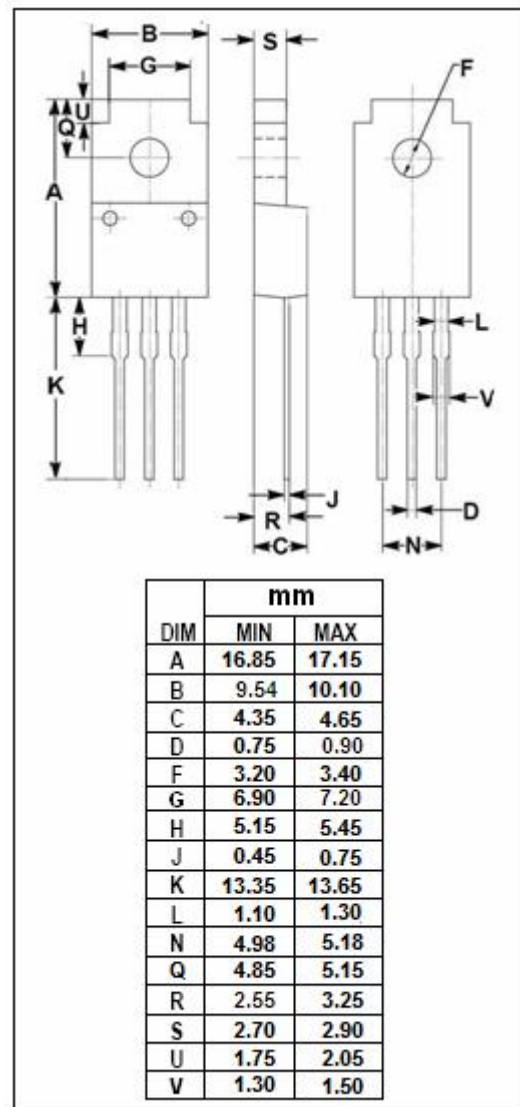
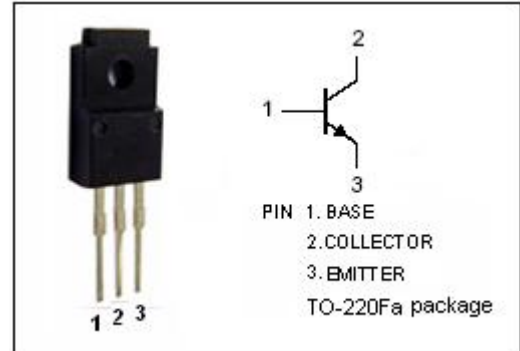
- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	3	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.0	$^\circ\text{C}/\text{W}$



ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C= 10\text{mA}; I_B= 0$	800			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 1\text{mA}; I_E= 0$	900			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 1\text{mA}; I_C= 0$	10			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 1\text{A}; I_B= 0.2\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 1\text{A}; I_B= 0.2\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}= 900\text{V}; I_E= 0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 10\text{V}; I_C= 0$			1.0	mA
h_{FE}	DC Current Gain	$I_C= 1\text{A}; V_{CE}= 5\text{V}$	10			

Switching times

t_{on}	Turn-on Time	$I_C= 2\text{A}, I_{B1}= 0.4\text{A}; I_{B2}= -0.8\text{A}$ $R_L=150\ \Omega;$ $P_W=20\ \mu\text{s}; \text{Duty} \leq 2\%$			1.0	μs
t_{stg}	Storage Time				4.0	μs
t_f	Fall Time				0.8	μs

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