

**Silicon NPN Power Transistor**

**2SC3866**

**DESCRIPTION**

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

**APPLICATIONS**

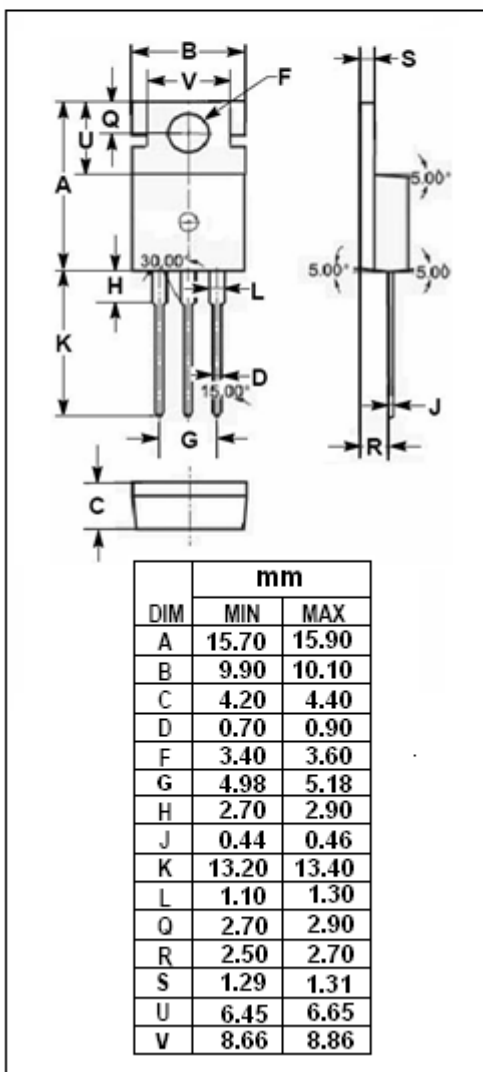
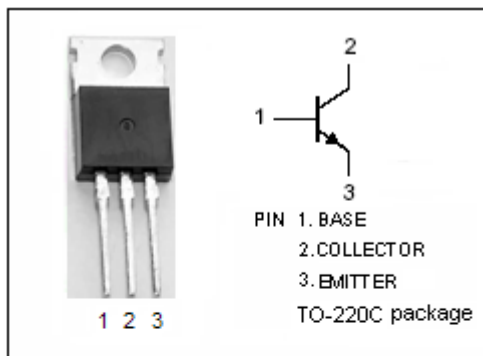
- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

**ABSOLUTE MAXIMUM RATINGS( $T_a=25$  )**

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 @ $T_C=25$	40	W
$T_J$	Junction Temperature	150	
$T_{stg}$	Storage Temperature Range	-55~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	/W



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## ELECTRICAL CHARACTERISTICS

 $T_C=25$  unless otherwise specified

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

## Switching times

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