

Silicon NPN Power Transistors

S2000AF

DESCRIPTION

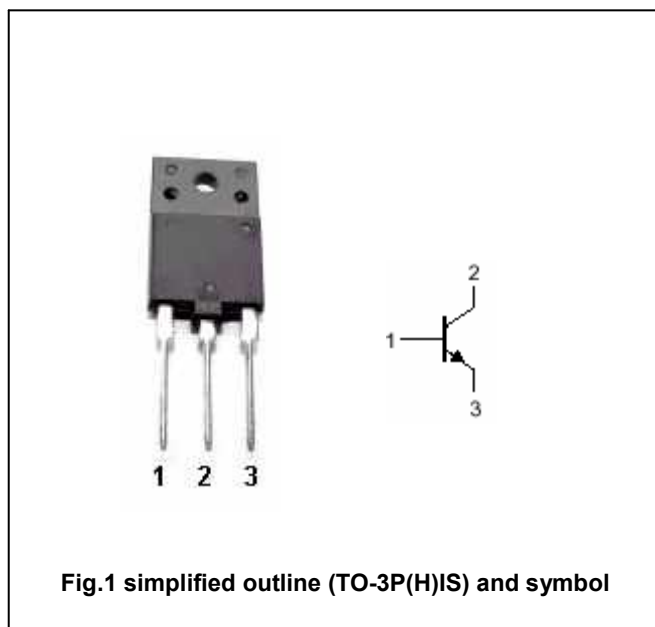
- With TO-3P(H)IS package
- High voltage
- Fast switching

APPLICATIONS

- Horizontal deflection for color TV

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1500	V
V_{CEO}	Collector-emitter voltage	Open base	700	V
V_{EBO}	Emitter-base voltage	Open collector	10	V
I_C	Collector current		8	A
I_{CM}	Collector current-peak		15	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	50	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-C}$	Thermal resistance from junction to case	2.5	$^\circ\text{C}/\text{W}$

Silicon NPN Power Transistors

S2000AF

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=100mA$; $I_B=0$	700			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10mA$; $I_C=0$	10			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=4.5A$; $I_B=2.0A$			1.0	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=4.5A$; $I_B=2.0A$			1.3	V
I_{CES}	Collector cut-off current	$V_{CE}=1500V$; $V_{BE}=0$ $T_C=125^\circ C$			1 2	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V$; $I_C=0$			1	mA
h_{FE}	DC current gain	$I_C=1A$; $V_{CE}=5V$	8			
f_T	Transition frequency	$I_C=0.1A$; $V_{CE}=5V$; $f=5MHz$		7		MHz

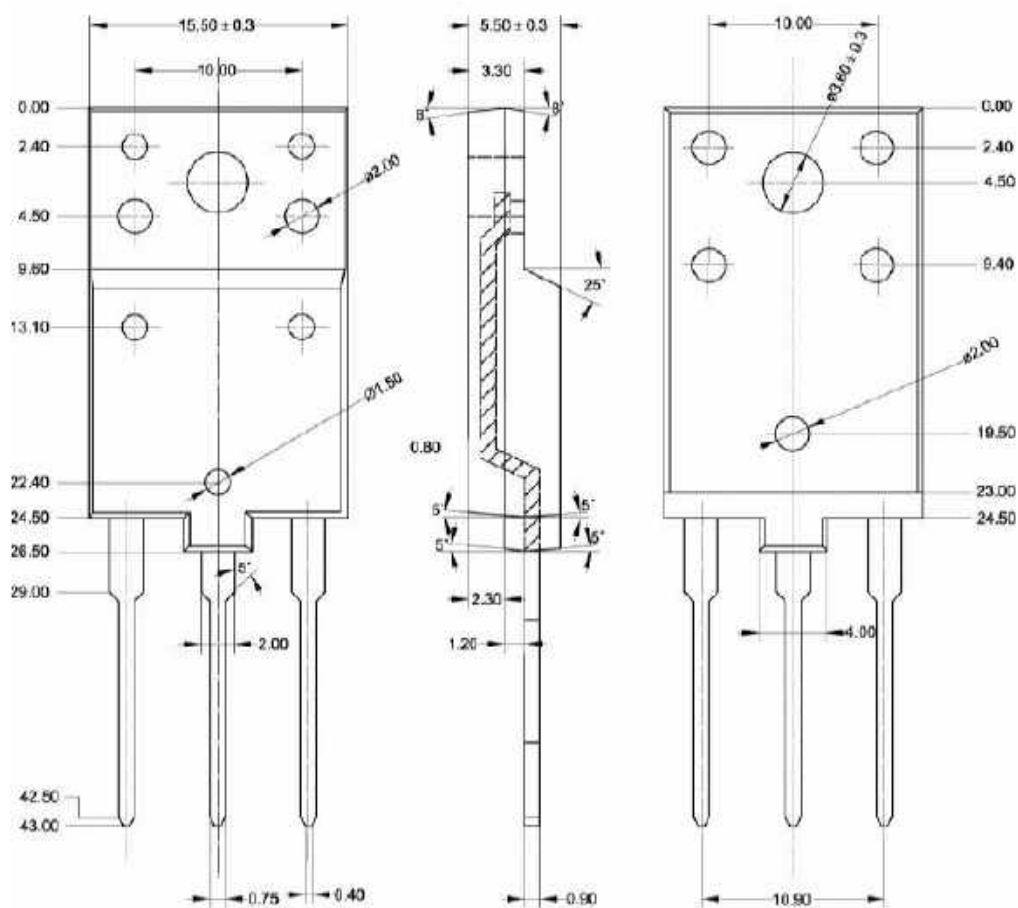
Switching times inductive load

t_s	Storage time	$I_C=4.5A$; $h_{FE}=2.5$; $V_{CC}=140V$ $L_C=0.9mH$; $L_B=3\mu H$		7		μs
t_f	Fall time			0.55		μs

Silicon NPN Power Transistors

S2000AF

PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)