

Silicon NPN Power Transistors

S2000N

DESCRIPTION

- With TO-3P(H)IS package
- High voltage,high speed
- Low collector saturation voltage

APPLICATIONS

- Color TV horizontal output applications
- Color TV switching regulator applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

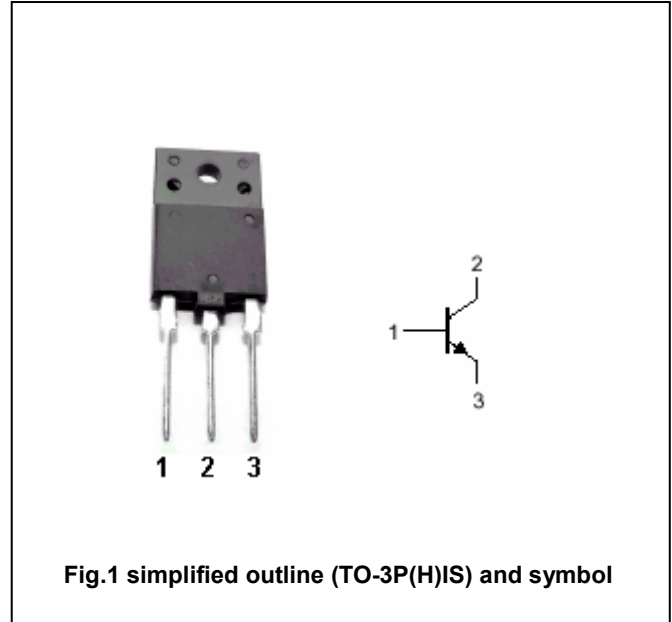


Fig.1 simplified outline (TO-3P(H)IS) and symbol

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	5	V
I_C	Collector current		8	A
I_{CM}	Collector current-peak		15	A
I_B	Base current		4	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	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _B =500mA ; V _{BE} =-1.7V; L=40mH	700			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA ; I _C =0	5			V
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =4.5A ; I _B =2.0A			1.0	V
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =4.5A ; I _B =1.0A			5.0	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =4.5A ; I _B =1.0A			1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =1500V; V _{BE} =0			1.0	mA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =5V	10		30	
h _{FE-2}	DC current gain	I _C =4.5A ; V _{CE} =5V	4.5		9	
C _{OB}	Collector output capacitance	I _E =0 ; V _{CB} =10V; f=1MHz		95		pF
f _T	Transition frequency	I _C =0.1A ; V _{CE} =10V		2		MHz

Switching times

t _s	Storage time	I _{CP} =4.5A; I _{B1(end)} =1.0A f _H =15.75kHz		8	12	μs
t _f	Fall time			0.4	0.7	μs

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PACKAGE OUTLINE

