

Silicon NPN Power Transistors

2SD2500

DESCRIPTION

www.datasheet4u.com

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

APPLICATIONS

- Horizontal deflection output for color TV

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

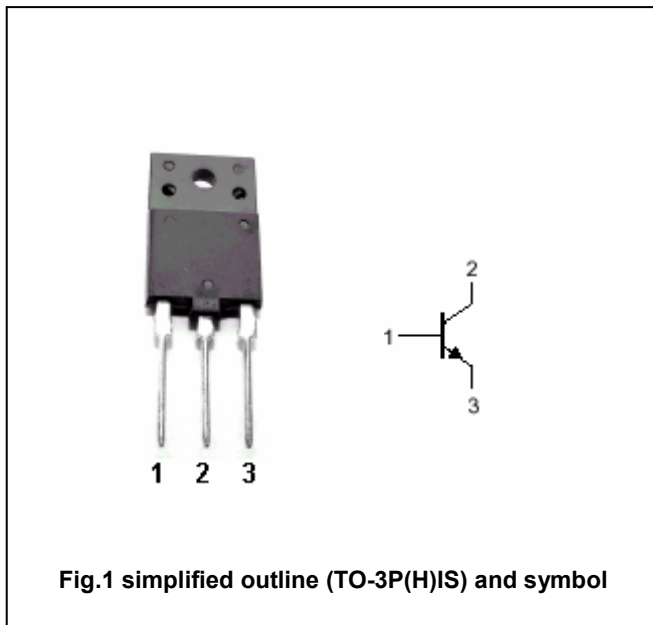


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	1500	V
V _{CEO}	Collector-emitter voltage	Open base	600	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		10	A
I _{CM}	Collector current-peak		20	A
I _B	Base current		5	A
P _C	Total power dissipation	T _C =25°C	50	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10\text{mA}; I_B=0$	600			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6\text{A}; I_B=1.5\text{A}$			3	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6\text{A}; I_B=1.5\text{A}$		1.0	1.4	V
I_{CBO}	Collector cut-off current	$V_{CB}=1500\text{V}; I_E=0$			1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	10		30	
h_{FE-2}	DC current gain	$I_C=6\text{A}; V_{CE}=5\text{V}$	4		8	
C_{ob}	Collector output capacitance	$I_E=0; V_{CB}=10\text{V}, f=1\text{MHz}$		135		pF
f_T	Transition frequency	$I_C=0.1\text{A}; V_{CE}=10\text{V}$		1.7		MHz

Switching times :

t_s	Storage time	$I_{CP}=6\text{A}; I_{B1}=1.5\text{A}$ $f_H = 15.75\text{kHz}$		7	11	μs
t_f	Fall time			0.35	0.7	μs

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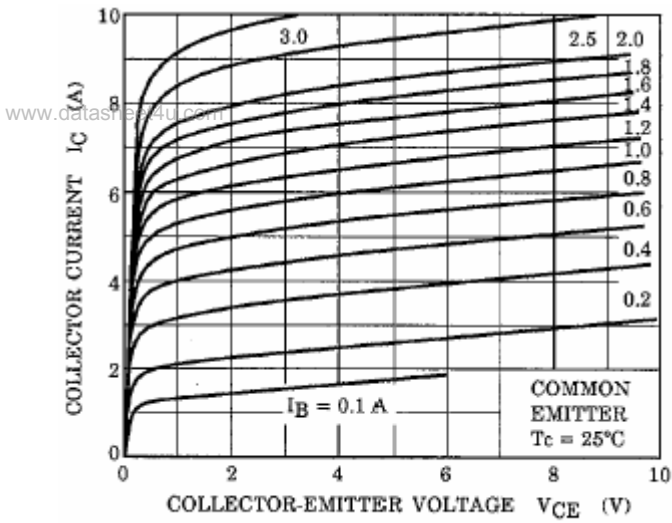


Fig.3 Static Characteristic

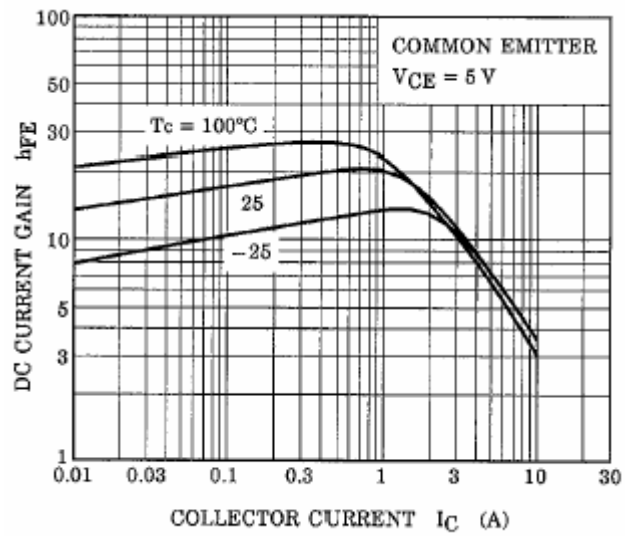


Fig.4 DC current Gain

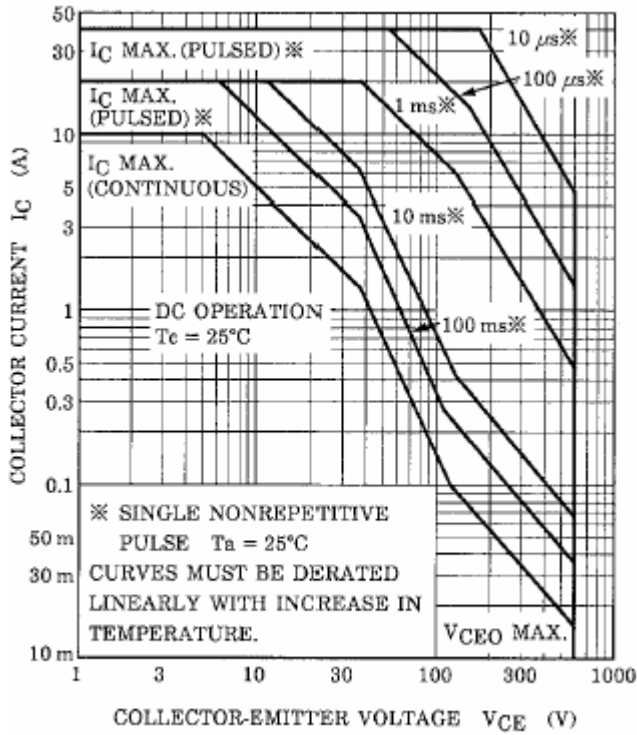


Fig.5 Safe Operating Area