

## Silicon NPN Power Transistors

2SD2499

## DESCRIPTION

www.datasheet4u.com

- With TO-3P(H)IS package
- High voltage;high speed
- Low saturation voltage
- Bult-in damper diode

## APPLICATIONS

- Horizontal deflection output for color TV

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

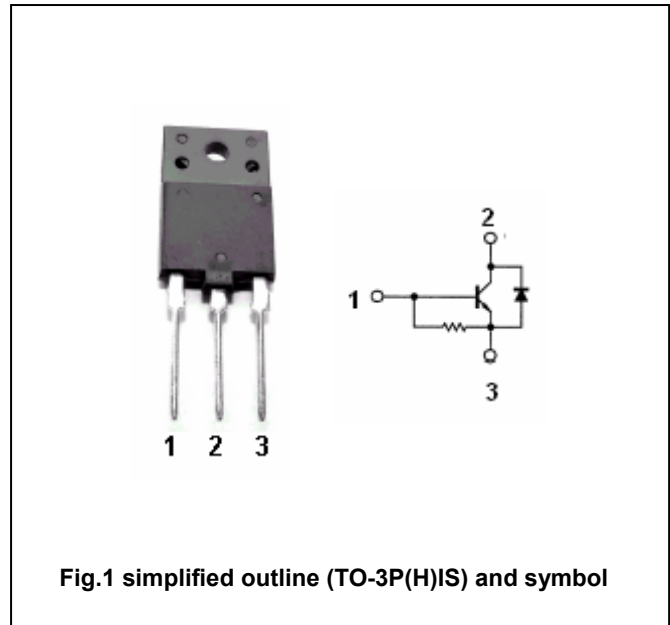


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	1500	V
$V_{CEO}$	Collector-emitter voltage	Open base	600	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		6	A
$I_{CM}$	Collector current-peak		12	A
$I_B$	Base current		3	A
$P_C$	Total power dissipation	$T_C=25^\circ\text{C}$	50	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^\circ\text{C}$

## Silicon NPN Power Transistors

## 2SD2499

## CHARACTERISTICS

www.datasheet4u.com

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_C=400\text{mA}; I_B=0$	5			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=4\text{A}; I_B=0.8\text{A}$			5	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=4\text{A}; I_B=0.8\text{A}$		1.05	1.3	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=1500\text{V}; I_E=0$			1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$	67		200	mA
$h_{FE-1}$	DC current gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	8		25	
$h_{FE-2}$	DC current gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	5		9	
$V_F$	Diode forward voltage	$I_F=6\text{A}$		1.6	2.0	V
$C_{ob}$	Collector output capacitance	$I_E=0; V_{CB}=10\text{V}, f=1\text{MHz}$		95		pF
$f_T$	Transition frequency	$I_C=0.1\text{A}; V_{CE}=10\text{V}$		2		MHz

Switching times :

$t_s$	Storage time	$I_{CP}=4\text{A}; I_{B1}=0.8\text{A}$ $f_H=15.75\text{kHz}$		7.5	11	$\mu\text{s}$
$t_f$	Fall time			0.3	0.6	$\mu\text{s}$

Silicon NPN Power Transistors

2SD2499

PACKAGE OUTLINE

www.datasheet4u.com

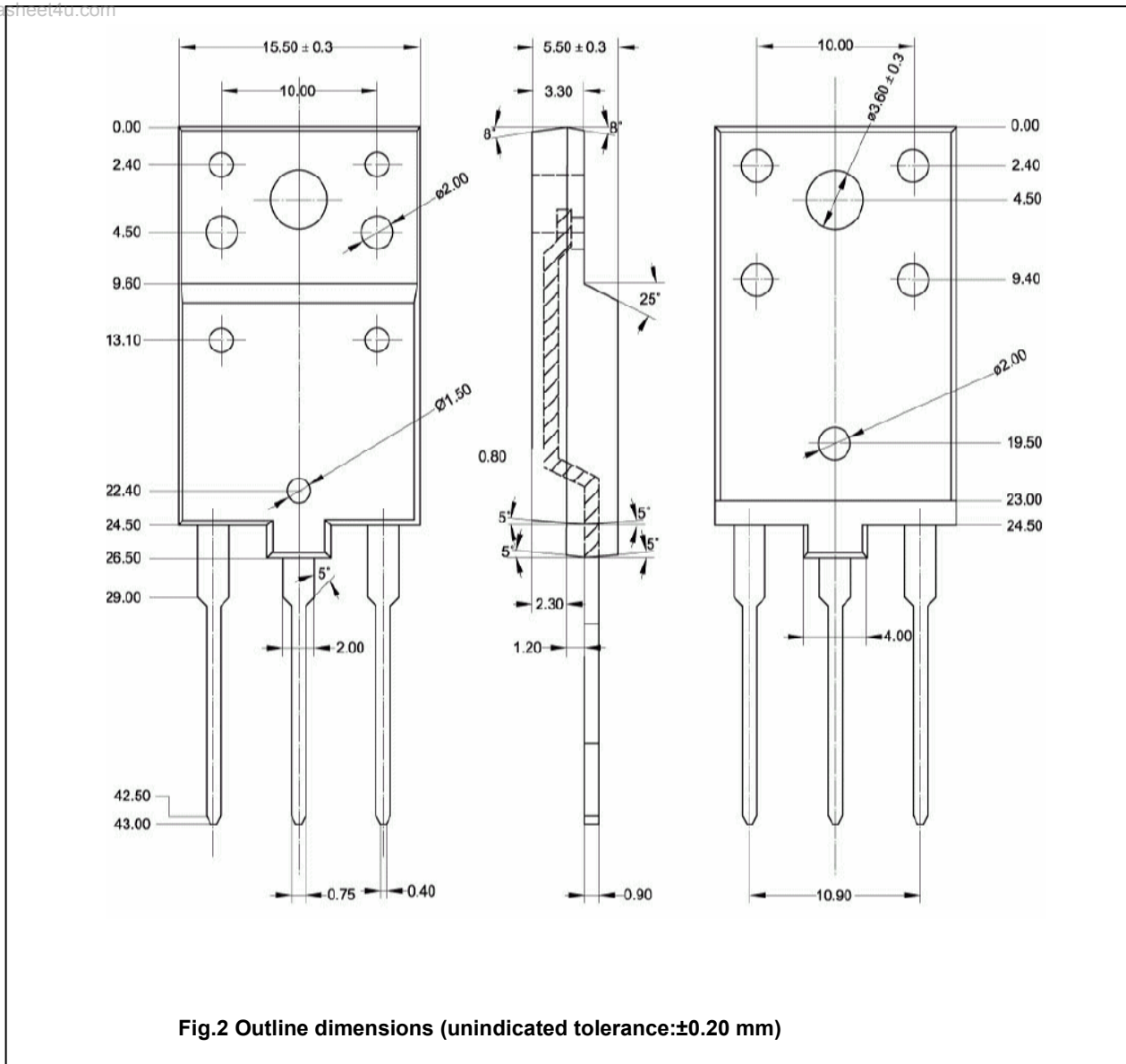


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.20$  mm)

Silicon NPN Power Transistors

2SD2499

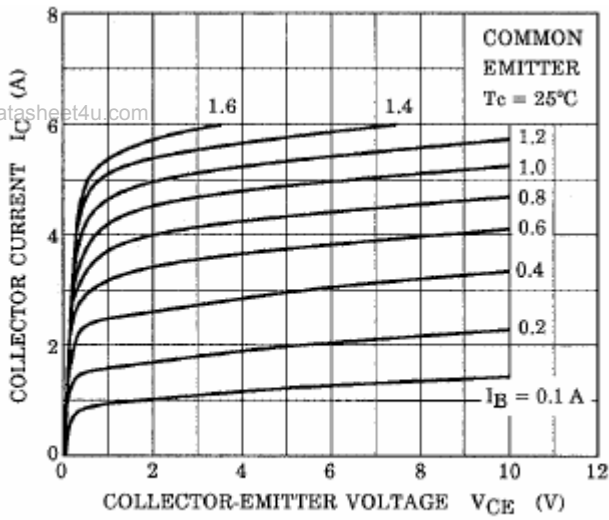


Fig.3 Static Characteristic

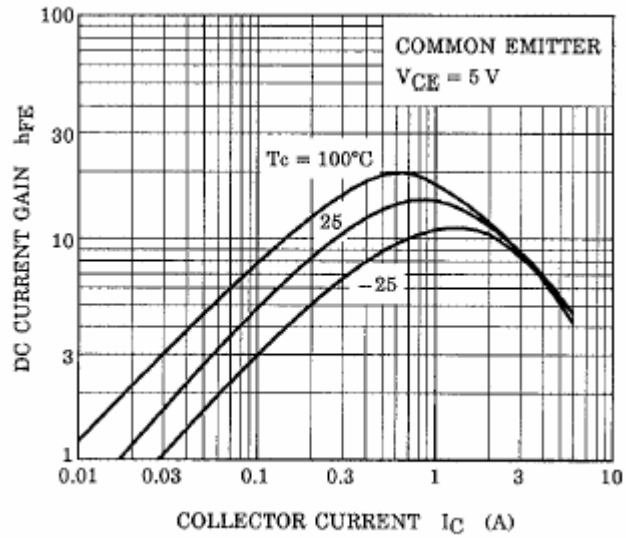


Fig.4 DC current Gain

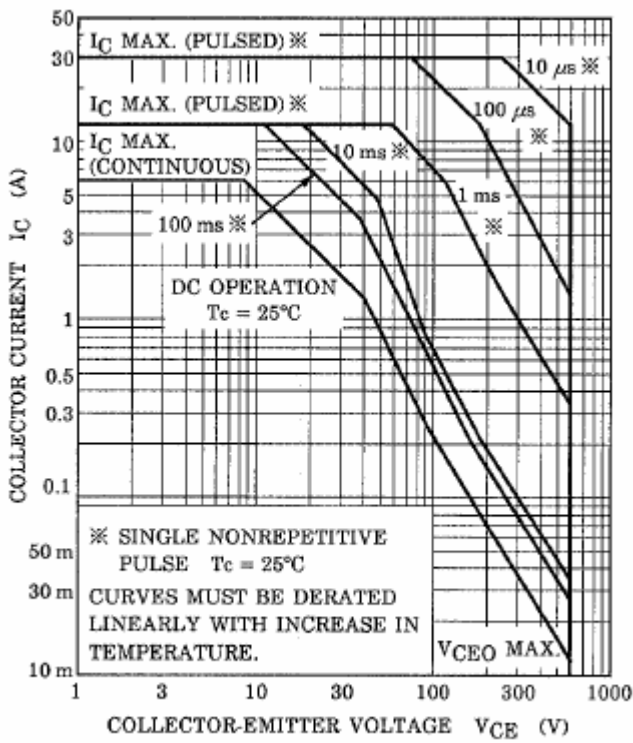


Fig.5 Safe Operating Area