

# 2SD1772, 2SD1772A

Silicon NPN triple diffusion planar type

For power amplification

For TV vertical deflection output

Complementary to 2SB1192 and 2SB1192A

## Features

- Large collector power dissipation  $P_C$
- Full-pack package which can be installed to the heat sink with one screw

## Absolute Maximum Ratings ( $T_C=25^\circ\text{C}$ )

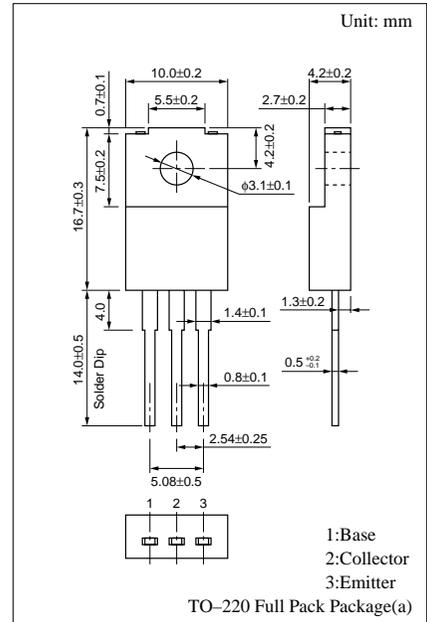
Parameter	Symbol	Ratings	Unit	
Collector to base voltage	2SD1772	200	V	
	2SD1772A	200		
Collector to emitter voltage	2SD1772	150	V	
	2SD1772A	180		
Emitter to base voltage	$V_{EBO}$	6	V	
Peak collector current	$I_{CP}$	2	A	
Collector current	$I_C$	1	A	
Collector power dissipation	$P_C$	$T_C=25^\circ\text{C}$	25	W
		$T_a=25^\circ\text{C}$	2	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

## Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

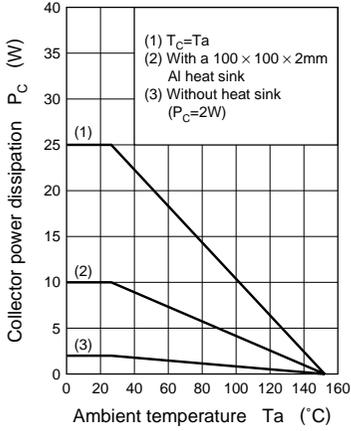
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 200\text{V}, I_E = 0$			50	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$			50	$\mu\text{A}$
Collector to emitter voltage	$V_{CEO}$	$I_C = 5\text{mA}, I_B = 0$	150			V
			180			
Emitter to base voltage	$V_{EBO}$	$I_E = 0.5\text{mA}, I_C = 0$	6			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	60		240	
	$h_{FE2}$	$V_{CE} = 10\text{V}, I_C = 300\text{mA}$	50			
Base to emitter voltage	$V_{BE}$	$V_{CE} = 10\text{V}, I_C = 300\text{mA}$			1	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 100\text{mA}, f = 1\text{MHz}$		20		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		27		pF

\* $h_{FE1}$  Rank classification

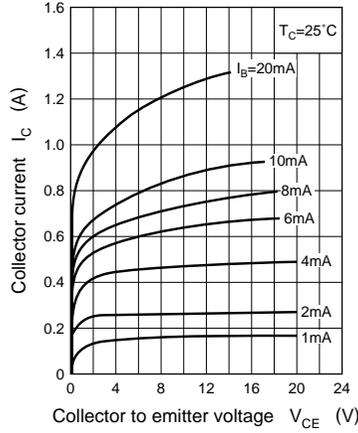
Rank	Q	P
$h_{FE1}$	60 to 140	100 to 240



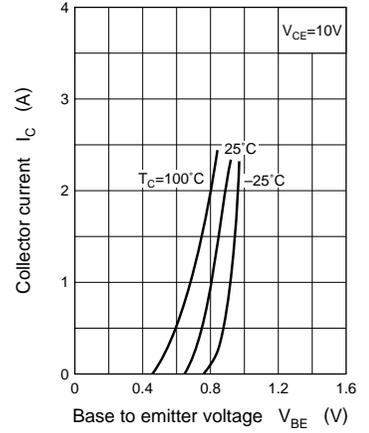
$P_C - T_a$



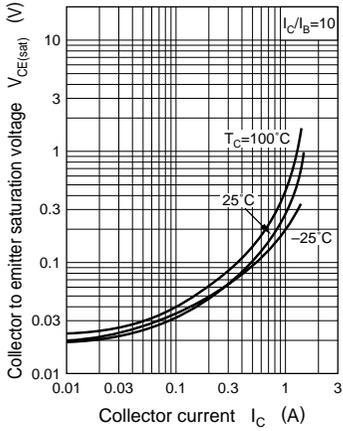
$I_C - V_{CE}$



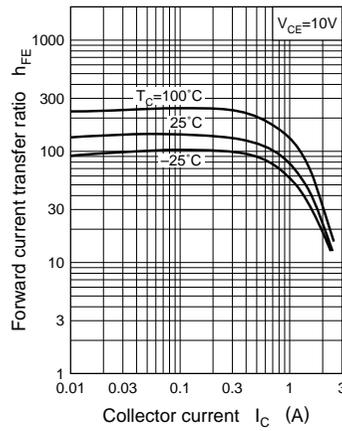
$I_C - V_{BE}$



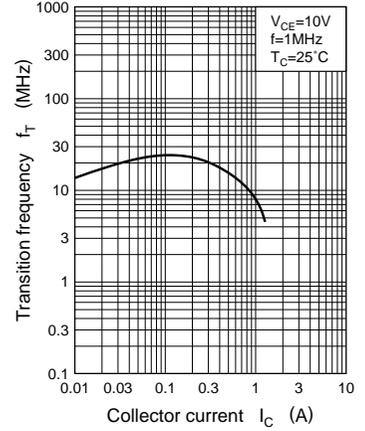
$V_{CE(sat)} - I_C$



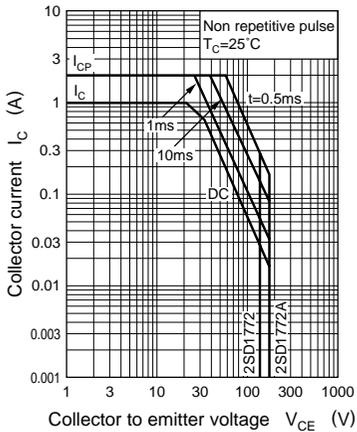
$h_{FE} - I_C$



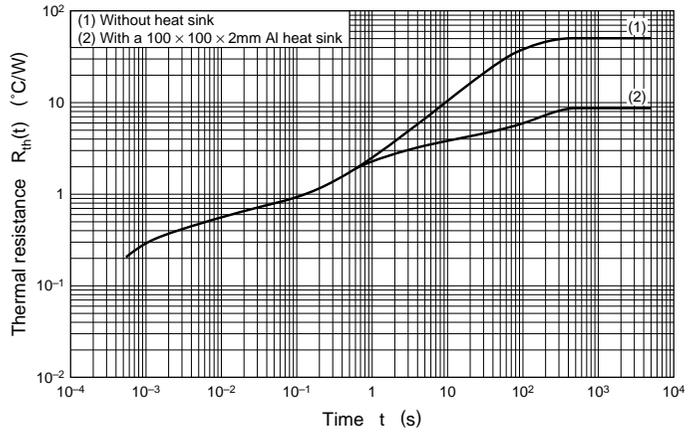
$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$



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