

# 2SC5591

## Silicon NPN triple diffusion mesa type

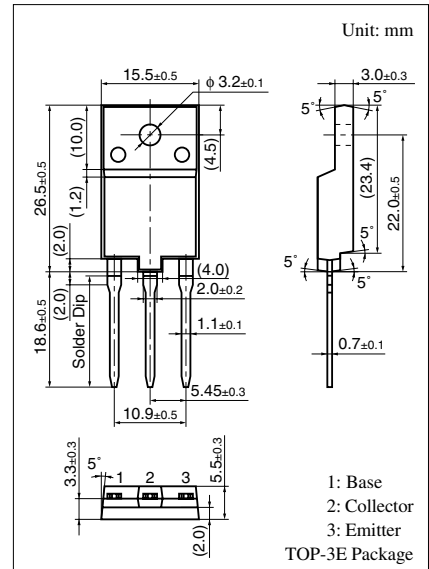
For horizontal deflection output

### ■ Features

- High breakdown voltage: 1 700 V; supporting a large screen CRT and wider visible angle
- High-speed switching:  $t_f < 0.2 \mu\text{s}$
- Low Collector to emitter saturation voltage:  $V_{CE(sat)} < 3 \text{ V}$
- Wide area of safe operation (ASO)

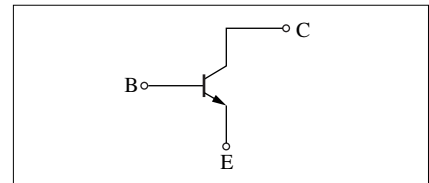
### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector to base voltage	$V_{CBO}$	1 700	V	
Collector to emitter voltage	$V_{CES}$	1 700	V	
	$V_{CEO}$	600	V	
Emitter to base voltage	$V_{EBO}$	7	V	
Peak collector current	$I_{CP}$	30	A	
Collector current	$I_C$	20	A	
Base current	$I_B$	11	A	
Collector power dissipation	$P_C$	$T_C = 25^\circ\text{C}$	70	W
		$T_a = 25^\circ\text{C}$	3.5	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	



Marking Symbol: C5591

Internal Connection



### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 1\ 000 \text{ V}, I_E = 0$			50	$\mu\text{A}$
		$V_{CB} = 1\ 700 \text{ V}, I_E = 0$			1	mA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 7 \text{ V}, I_C = 0$			50	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ A}$	6		12	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{ A}, I_B = 2.5 \text{ A}$			3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10 \text{ A}, I_B = 2.5 \text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = 0.1 \text{ A}, f = 0.5 \text{ MHz}$		3		MHz
Storage time	$t_{stg}$	$I_C = 10 \text{ A}, \text{Resistance loaded}$			3.0	$\mu\text{s}$
Fall time	$t_f$	$I_{B1} = 2.5 \text{ A}, I_{B2} = -5.0 \text{ A}$			0.2	$\mu\text{s}$