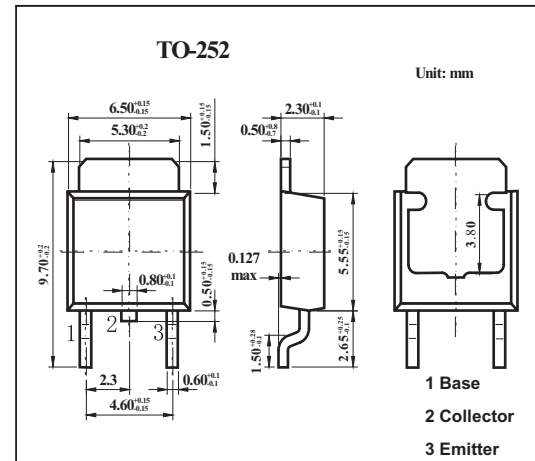


## Silicon NPN Triple Diffusion Junction Type

## 2SD1252,2SD1252A

## ■ Features

- Power transistors.



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit	
Collector-base voltage	V <sub>CB0</sub>	2SD1252	60	V
		2SD1252A	80	V
Collector-emitter voltage	V <sub>CEO</sub>	2SD1252	60	V
		2SD1252A	80	V
Emitter-base voltage	V <sub>EB0</sub>	6	V	
Collector current	I <sub>C</sub>	3	A	
Peak collector current	I <sub>CP</sub>	5	A	
Collector power dissipation	P <sub>C</sub>	T <sub>a</sub> = 25°C	1.3	W
		T <sub>c</sub> = 25°C	35	W
Junction temperature	T <sub>j</sub>	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

**2SD1252,2SD1252A**

## ■ Electrical Characteristics Ta = 25°C

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter voltage	2SD1252	V <sub>CEO</sub>	I <sub>C</sub> = 30 mA, I <sub>B</sub> = 0	60			V
	2SD1252A			80			V
Base-emitter voltage		V <sub>BE</sub>	V <sub>CE</sub> = 4 V, I <sub>C</sub> = 3 A			1.8	V
Collector-emitter cutoff current	2SD1252	I <sub>CES</sub>	V <sub>CE</sub> = 60 V, V <sub>BE</sub> = 0			200	μA
	2SD1252A		V <sub>CE</sub> = 80 V, V <sub>BE</sub> = 0			200	μA
Collector-emitter cutoff current	2SD1252	I <sub>CEO</sub>	V <sub>CE</sub> = 30 V, I <sub>B</sub> = 0			300	μA
	2SD1252A		V <sub>CE</sub> = 40 V, I <sub>B</sub> = 0			300	μA
Emitter-base cutoff current		I <sub>EBO</sub>	V <sub>EB</sub> = 6 V, I <sub>C</sub> = 0			1	mA
Forward current transfer ratio		h <sub>FE</sub>	V <sub>CE</sub> = 4 V, I <sub>C</sub> = 1 A	40		250	
Forward current transfer ratio			V <sub>CE</sub> = 4 V, I <sub>C</sub> = 3 A	10			
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = 3 A, I <sub>B</sub> = 0.375 A			1.2	V
Transition frequency	2SD1252	f <sub>T</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 0.5 A, f = 10 MHz		30		MHz
	2SD1252A				25		MHz
Turn-on time		t <sub>on</sub>	I <sub>C</sub> =1A		0.5		μs
Storage time		t <sub>stg</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =0.1 A		2.5		μs
Fall time		t <sub>f</sub>	V <sub>CC</sub> =50V		0.4		μs

## ■ hFE Classification

Rank	R	Q	P
hFE	40~90	70~150	120~250