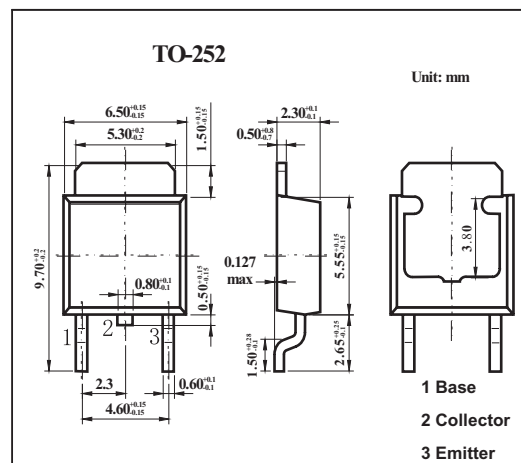


Silicon NPN Triple Diffusion Junction Type

2SD1252, 2SD1252A

■ Features

- Power transistors.

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

Parameter		Symbol	Rating	Unit
Collector-base voltage	2SD1252	V_{CB0}	60	V
	2SD1252A		80	V
Collector-emitter voltage	2SD1252	V_{CE0}	60	V
	2SD1252A		80	V
Emitter-base voltage		V_{EB0}	6	V
Collector current		I_C	3	A
Peak collector current		I_{CP}	5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1.3	W
	$T_C = 25^\circ\text{C}$		35	W
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature		T_{stg}	-55 to +150	$^\circ\text{C}$

2SD1252,2SD1252A■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter voltage	2SD1252	V_{CEO}	$I_C = 30\text{ mA}, I_B = 0$	60			V
	2SD1252A			80			V
Base-emitter voltage		V_{BE}	$V_{CE} = 4\text{ V}, I_C = 3\text{ A}$			1.8	V
Collector-emitter cutoff current	2SD1252	I_{CES}	$V_{CE} = 60\text{ V}, V_{BE} = 0$			200	μA
	2SD1252A		$V_{CE} = 80\text{ V}, V_{BE} = 0$			200	μA
Collector-emitter cutoff current	2SD1252	I_{CEO}	$V_{CE} = 30\text{ V}, I_B = 0$			300	μA
	2SD1252A		$V_{CE} = 40\text{ V}, I_B = 0$			300	μA
Emitter-base cutoff current		I_{EBO}	$V_{EB} = 6\text{ V}, I_C = 0$			1	mA
Forward current transfer ratio		h_{FE}	$V_{CE} = 4\text{ V}, I_C = 1\text{ A}$	40		250	
Forward current transfer ratio			$V_{CE} = 4\text{ V}, I_C = 3\text{ A}$	10			
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 0.375\text{ A}$			1.2	V
Transition frequency	2SD1252	f_T	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}, f = 10\text{ MHz}$		30		MHz
	2SD1252A				25		MHz
Turn-on time		t_{on}	$I_C = 1\text{ A}$		0.5		μs
Storage time		t_{stg}	$I_{B1} = -I_{B2} = 0.1\text{ A}$		2.5		μs
Fall time		t_f	$V_{CC} = 50\text{ V}$		0.4		μs

■ h_{FE} Classification

Rank	R	Q	P
h_{FE}	40~90	70~150	120~250