

NPN Transistors

2SD1252

■ Features

- High forward current transfer ratio h_{FE}
which has satisfactory linearity
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Complementary to 2SB929

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

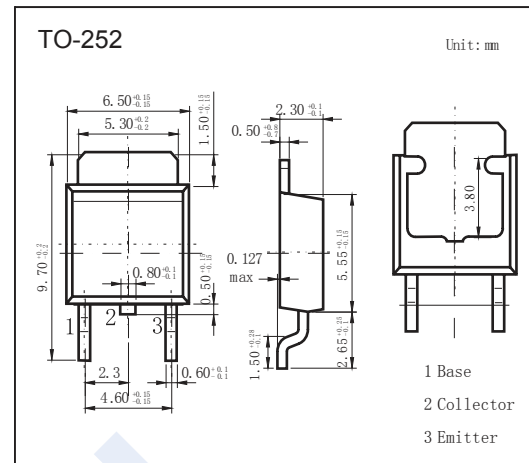
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	60	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	3	A
Collector Current - Pulse	I_{CP}	5	
Collector Power Dissipation	P_C	35	W
		1.3	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}, I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 30\ \text{mA}, I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}, I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60\ \text{V}, I_E = 0$			0.1	mA
Collector cutoff current	I_{CES}	$V_{CB} = 60\ \text{V}, I_E = 0$			200	
Collector cutoff current	I_{CEO}	$V_{CB} = 30\ \text{V}, I_E = 0$			300	uA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\ \text{V}, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\ \text{A}, I_B = 375\ \text{mA}$			1.2	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3\ \text{A}, I_B = 375\ \text{mA}$			1.2	
Base - emitter voltage	V_{BE}	$V_{CE} = 4\ \text{V}, I_C = 3\ \text{A}$			1.8	
DC current gain	$h_{FE(1)}$	$V_{CE} = 4\ \text{V}, I_C = 1\ \text{A}$	40		250	
	$h_{FE(2)}$	$V_{CE} = 4\ \text{V}, I_C = 3\ \text{A}$	10			
Turn-on time	t_{on}	$I_C = 1\ \text{A}, I_{B1} = 0.1\ \text{A}, I_{B2} = -0.1\ \text{A}, V_{CC} = 50\ \text{V}$		0.5		us
Storage time	t_{stg}			2.5		
Fall time	t_f			0.4		
Transition frequency	f_T			30		

■ Classification of $h_{FE(1)}$

Type	2SD1252-R	2SD1252-Q	2SD1252-P
Marking	40-90	70-150	120-250



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■ Typical Characteristics

