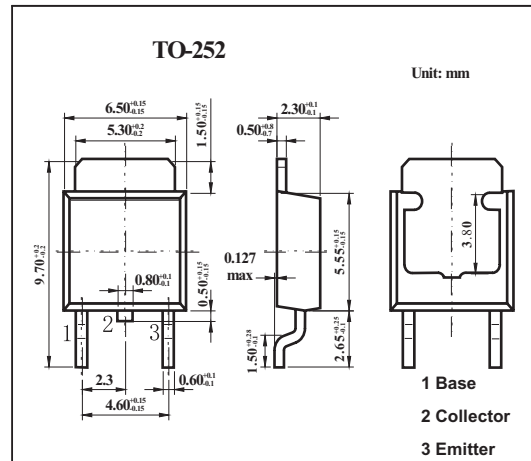


# 2SD1257, 2SD1257A

■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$ .
- Satisfactory linearity of forward current transfer ratio  $h_{FE}$ .
- Large collector current  $I_C$ .



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

Parameter	Symbol	Rating	Unit	
Collector-base voltage	$V_{CBO}$	2SD1257	130	V
		2SD1257A	150	V
Collector-emitter voltage	$V_{CEO}$	2SD1257	80	V
		2SD1257A	100	V
Emitter-base voltage	$V_{EBO}$	7	V	
Collector current	$I_C$	7	A	
Peak collector current	$I_{CP}$	15	A	
Collector power dissipation $T_a = 25^\circ\text{C}$	$P_C$	1.3	W	
		40	W	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

## 2SD1257,2SD1257A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter voltage	V <sub>CEO</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	80			V
			100			V
Collector-base cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 100 V, I <sub>E</sub> = 0			10	μA
Emitter-base cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0			50	μA
Forward current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 3 A	90		260	
Forward current transfer ratio		V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.1A	45			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 5 A, I <sub>B</sub> = 0.25 A			0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 5 A, I <sub>B</sub> = 0.25 A			1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 0.5 A, f = 10 MHz		30		MHz
Turn-on time	t <sub>on</sub>	I <sub>C</sub> =3A		0.5		μs
Storage time	t <sub>stg</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =0.3 A		1.5		μs
Fall time	t <sub>f</sub>	V <sub>CC</sub> =50V		0.1		μs

■ hFE Classification

Rank	Q	P
hFE	90~180	130~260