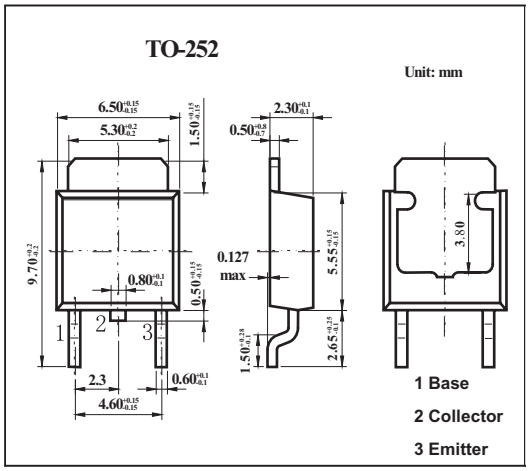
NPN Silicon Epitaxial Transistor

2SD1583-Z



■ Features

- Low $V_{CE(sat)}$.
- High hFE.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	2	A
Collector Current (pulse) *1	I_{CP}	3	A
Total power dissipation Ta = 25℃ *2	P_T	2	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

* 1 Pulse Test PW ≤ 10ms, Duty Cycle ≤ 50%.

*2 When mounted on ceramic substrate of 7.5cm^2 X0.7mm

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 20 V, I_E = 0			10	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5 V, I_C = 0			10	μA
DC current gain *	h_{FE}	V_{CE} = 5 V, I_C = 0.5 A	800	2000	3200	
		V_{CE} = 5 V, I_C =50mA	600	2000		
		V_{CE} = 5 V, I_C = 2 A	500	1400		
Collector saturation voltage *	$V_{CE(sat)}$	I_C = 1.0 A, I_B = 10 mA		0.18	0.5	V
Base saturation voltage *	$V_{BE(sat)}$	I_C = 1.0 A, I_B = 10 mA		0.85	1.2	V
Gain bandwidth product	f_T	V_{CE} = 5 V, I_E = 100 mA		270		MHz
Output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz		20		pF
Turn-on time	ton	I_C = 1 A,V_{CC} = 10 V		0.6		μs
Storage time	tstg	I_{B1}=-I_{B2}=10 mA		1.5		μs
Fall time	tf			0.3		μs

* Pulsed: PW ⩽ 350 μs, duty cycle ⩽ 2%

■ h_{FE} Classification

Marking	M	L	K
hFE	800～1600	1000～2000	1600～3200