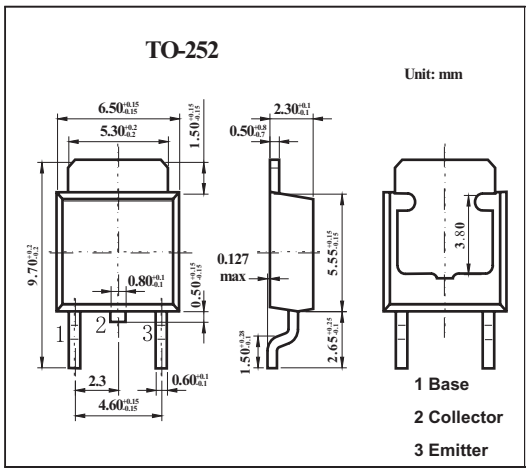
NPN Silicon Epitaxial Transistor

2SD1899-Z



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	7	V
Collector current (DC)	I_C	3	A
Collector Current (pulse) *1	I_{CP}	5	A
Base current	I_B	0.5	A
Total power dissipation Ta = 25℃	P_T *2	2	W
Total power dissipation T_C = 25℃	P_T	10	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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

*2 Mounted on ceramic substrate of 7.5mm^{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} = 60 V, I_E = 0			10	μs
Emitter cutoff current	I_{EBO}	V_{EB} = 7 V, I_C = 0			10	μA
DC current gain *	h_{FE}	V_{CE} = 2V, I_C = 0.2 A	60			
		V_{CE} = 2V, I_C = 0.6 A	100		400	
		V_{CE} = 2V, I_C = 2.0 A	50			
Collector saturation voltage *	$V_{CE(sat)}$	I_C = 1.5 A, I_B = 0.15 A		0.14	0.25	V
Base saturation voltage *	$V_{BE(sat)}$	I_C = 1.5 A, I_B = 0.15 A		0.93	1.2	V
Gain bandwidth product	f_T	V_{CE} = 5 V, I_E = -1.5 A		120		MHz
Output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz		30		pF
Turn-on time	ton	I_C = 1 A,V_{CC} = 10 V		0.15	0.5	μs
Storage time	tstg	I_{B1}=-I_{B2}=0.1A		0.75	2	μs
Fall time	tf	R_L=10Ω		0.2	0.5	μs

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

■ h_{FE} Classification

Marking	M	L	K
hFE	100～200	160～320	200～400