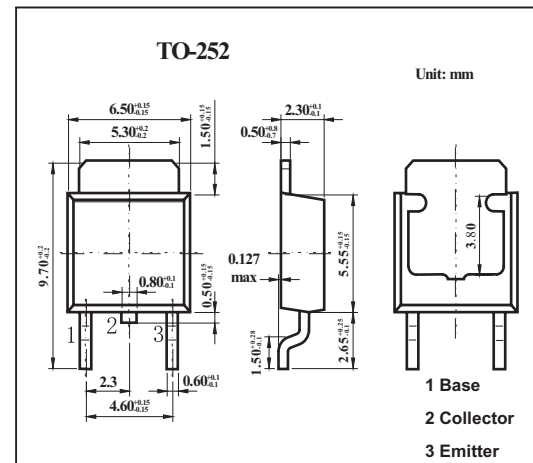


NPN Silicon Epitaxial Transistor

2SD1584-Z

■ Features

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

■ 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	V
Emitter-base voltage	V_{EBO}	7	V
Collector current (DC)	I_C	3	A
Collector Current (pulse) *1	I_{CP}	5	A
Total power dissipation $T_a = 25^\circ\text{C}$ *2	P_T	2	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* 1Pulse Test $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$.

*2 when mounted on ceramic substrate of $7.5\text{cm}^2 \times 0.7\text{mm}$

2SD1584-Z

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	IcBO	V _{CB} = 60 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 = 50 mA	600	1650		
		V _{CE} = 5 V, I _C = 500 mA	800	1800	3200	
		V _{CE} = 5 V, I _C = 3A	500	1400		
Collector saturation voltage *	V _{CE(sat)}	I _C = 2.0 A, I _B = 20 mA		0.25	0.5	V
Base saturation voltage *	V _{BE(sat)}	I _C = 2.0 A, I _B = 20 mA		0.8	1.2	V
Gain bandwidth product	f _T	V _{CE} = 5 V, I _E = -100 mA	50	120		MHz
Output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1.0 MHz		20		pF
Turn-on time	t _{on}	I _C = 2 A, V _{CC} = 10 V I _{B1} = -I _{B2} = 20 mA R _L = 5Ω		0.9		μs
Storage time	t _{stg}			2.6		μs
Fall time	t _f			1		μs

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

■ hFE Classification

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