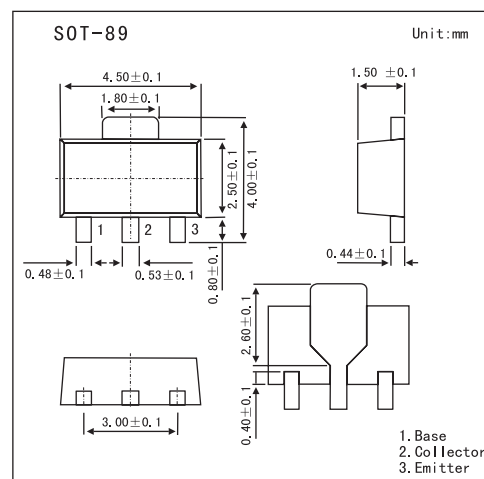


NPN Epitaxial Planar Silicon Transistor

2SD1620

■ Features

- Less power dissipation because of low $V_{CE(sat)}$, permitting more flashes of light to be emitted.
- Large current capacity and highly resistant to breakdown.
- Excellent linearity of h_{FE} in the region from low current to high current.
- Ultrasmall size supports high-density, ultrasmallsized hybrid IC designs.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	A
Collector current (pulse)	I_{CP}	5	A
Collector dissipation	P_C	500	mW
	P_{C^*}	1.3	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* Mounted on ceramic board(250mm 2×0.8 mm)

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4\text{ V}, I_C = 0$			100	nA
DC current gain	h_{FE}	$V_{CE} = 2\text{ V}, I_C = 3\text{ A}$	140	210		
Gain bandwidth product	f_T	$V_{CE} = 10\text{ V}, I_C = 50\text{ mA}$		200		MHz
Output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$		30		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 60\text{ mA}$		0.3	0.4	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEX}$	$I_C = 1\text{ mA}, V_{BE} = 3\text{ V}$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, R_{BE} = \infty$	10			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6			V