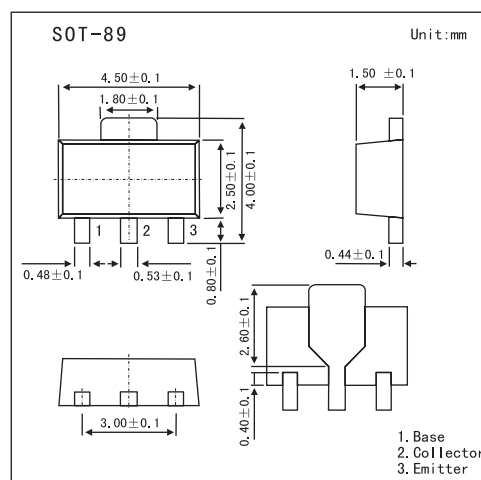


NPN Epitaxial Planar Silicon Transistor

2SD1628

■ Features

- Low saturation voltage.
- High h_{FE} .
- Large current capacity.
- Very small size making it easy to provide highdensity, small-sized hybrid ICs.

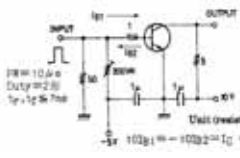
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	20	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	5	A
Collector current (pulse)	I_{CP}	8	A
Collector dissipation	P_C	500	mW
	P_{C^*}	1.5	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* Mounted on ceramic board(250mm2X0.8mm)

2SD1628

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 50\text{ V}, I_E = 0$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			100	nA
DC current gain	h_{FE}	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	120		560	
Gain bandwidth product	f_T	$V_{CE} = 10\text{ V}, I_C = 50\text{ mA}$		120		MHz
Output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$		45		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 60\text{ mA}$			500	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3\text{ A}, I_B = 60\text{ mA}$			1.5	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, R_{BE} = \infty$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6			V
Turn-on time	t_{on}	Switching Time Test Circuit  PRW = 10 μs Duty = 2.5% Tr = 10 ns Toff = 10 ns Vcc = 10V, Ic = 10mA, Vce = 10V		30		ns
Storage time	t_{stg}			300		ns
Turn-off time	t_f			40		ns

■ hFE Classification

Marking	DK		
Rank	E	F	G
hFE	120~200	160~320	280~560