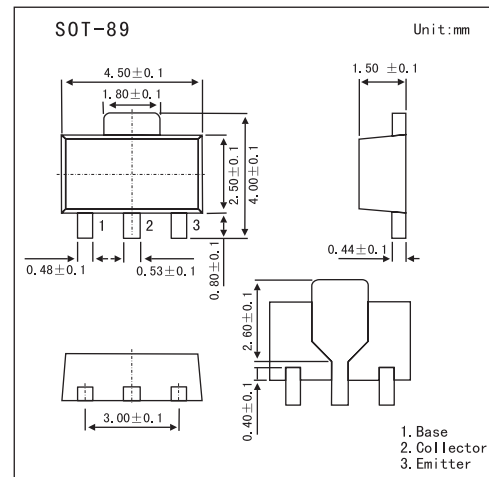


## NPN Epitaxial Planar Silicon Transistor

## 2SD1628

## ■ Features

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

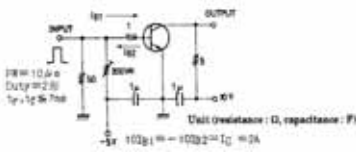
■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

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 Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	ICBO	V <sub>CB</sub> = 50 V, I <sub>E</sub> =0			100	nA	
Emitter cutoff current	IEBO	V <sub>EB</sub> = 5 V, I <sub>C</sub> =0			100	nA	
DC current gain	hFE	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	120		560		
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 50 mA		120		MHz	
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, f = 1.0MHz		45		pF	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 3 A, I <sub>B</sub> = 60 mA			500	mV	
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 3 A, I <sub>B</sub> = 60 mA			1.5	V	
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	60			V	
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞	20			V	
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	6			V	
Turn-on time	ton	Switching Time Test Circuit 		30		ns	
Storage time	tstg				300		ns
Turn-off time	tf				40		ns

## ■ hFE Classification

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