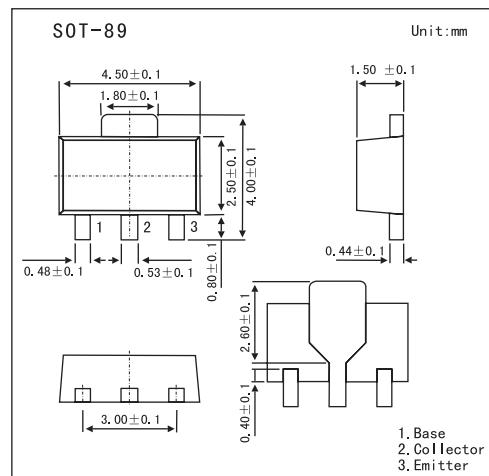


## NPN Silicon Epitaxia

## 2SD2403

## ■ Features

- High current capacitance.
- Low collector saturation voltage.



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	80	V
Collector-emitter voltage	V <sub>CEO</sub>	60	V
Emitter-base voltage	V <sub>EBO</sub>	6	V
Collector current	I <sub>C</sub>	3	A
Collector current (pulse)*	I <sub>CP</sub>	5	A
Base current	I <sub>B</sub>	0.2	A
Base current (pulse) *	I <sub>BP</sub>	0.4	A
Total power dissipation	P <sub>T</sub>	2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* PW ≤ 10 ms, duty cycle ≤ 50 %

**2SD2403**■ Electrical Characteristics  $T_a = 25^\circ C$ 

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 80 V, I_E = 0$			100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 6.0 V, I_C = 0$			100	nA
DC current gain *	$h_{FE}$ 1	$V_{CE} = 2.0 V, I_C = 0.1 A$	80			
	$h_{FE}$ 2	$V_{CE} = 2.0 V, I_C = 1.0 A$	100	200	400	
Base to emitter voltage *	$V_{BE}$	$V_{CE} = 2.0 V, I_C = 0.1 A$	630	670	730	mV
Collector saturation voltage	$V_{CE(sat)}$ 1	$I_C = 2 A, I_B = 0.1 A$		150	300	mV
	$V_{CE(sat)}$ 2	$I_C = 3 A, I_B = 0.15 A$		210	500	mV
Base saturation voltage	$V_{BE(sat)}$	$I_C = 2 A, I_B = 0.1 A$		0.89	1.2	V
Gain bandwidth product	$f_T$	$V_{CE} = 10 V, I_E = -0.3 A$		130		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10 V, I_E = 0, f = 1.0 MHz$		30		pF
Turn-on time	$t_{on}$	$I_C = 1.0 A, V_{CC} = 10 V$ $I_{B1} = -I_{B2} = 0.1 A$ $R_L = 5.0\Omega$		150		ns
Storage time	$t_{stg}$			652		ns
Fall time	$t_f$			40		ns

## ■ hFE Classification

Marking	GX	GY	GZ
hFE	100~200	160~320	200~400