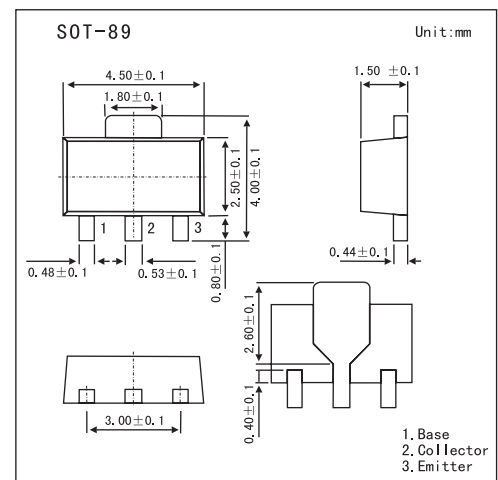


NPN Silicon Epitaxia

2SD2403

■ Features

- High current capacitance.
- Low collector saturation voltage.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	80	V
Collector-emitter voltage	V_{CE0}	60	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	3	A
Collector current (pulse) *	I_{CP}	5	A
Base current	I_B	0.2	A
Base current (pulse) *	I_{BP}	0.4	A
Total power dissipation	P_T	2	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10$ ms, duty cycle ≤ 50 %

2SD2403■ Electrical Characteristics $T_a = 25^\circ\text{C}$

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