

## NPN Transistors

### 2SD2403

#### ■ Features

- High current capacitance
- Low collector saturation voltage
- Complementary to 2SB1572

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

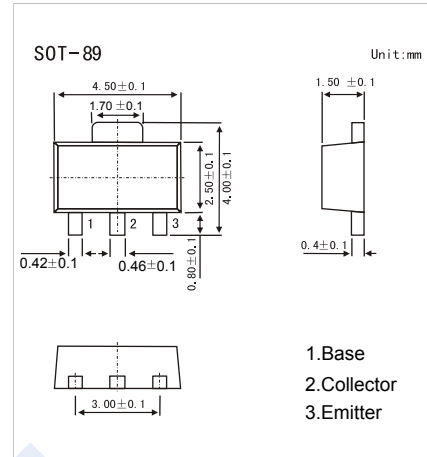
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	80	V
Collector - Emitter Voltage	$V_{CE0}$	60	
Emitter - Base Voltage	$V_{EB0}$	6	
Collector Current - Continuous	$I_C$	3	A
Collector Current - Pulse	$I_{CP}$	5	
Collector Power Dissipation	$P_C$	2	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = 100 \mu\text{A}$ , $I_E = 0$	80			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 1 \text{ mA}$ , $I_B = 0$	60			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu\text{A}$ , $I_C = 0$	6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 80 \text{ V}$ , $I_E = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 6 \text{ V}$ , $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}$ , $I_B = 100 \text{ mA}$		0.15	0.3	V
		$I_C = 3 \text{ A}$ , $I_B = 150 \text{ mA}$		0.21	0.5	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 \text{ A}$ , $I_B = 100 \text{ mA}$		0.89	1.2	
Base - emitter voltage	$V_{BE}$	$V_{CE} = 2 \text{ V}$ , $I_C = 100 \text{ mA}$	0.6		0.7	
DC current gain	$h_{FE}$	$V_{CE} = 2 \text{ V}$ , $I_C = 100 \text{ mA}$	80			
		$V_{CE} = 2 \text{ V}$ , $I_C = 1 \text{ A}$	100		400	
Turn-on time	$t_{on}$	$I_C = 1 \text{ A}$ , $V_{CC} = 10 \text{ V}$		150		ns
Storage time	$t_{stg}$	$I_{B1} = -I_{B2} = 0.1 \text{ A}$		652		
Fall time	$t_f$	$R_L = 5 \Omega$		40		
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$		30		pF
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}$ , $I_E = -300 \text{ mA}$		130		MHz

#### ■ Classification of $h_{FE}(2)$

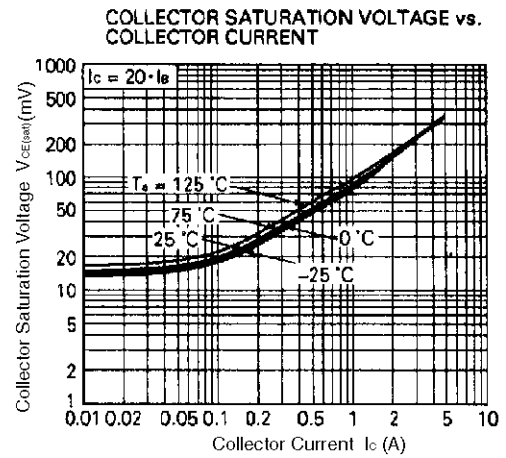
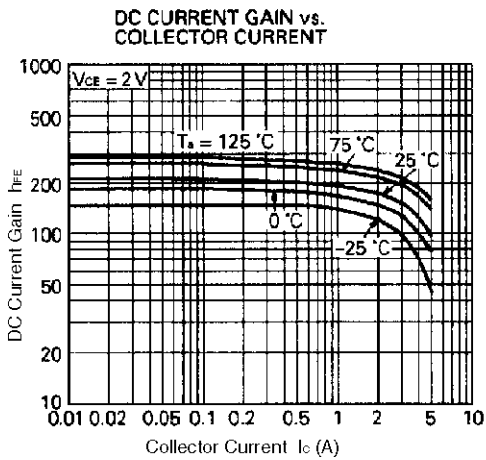
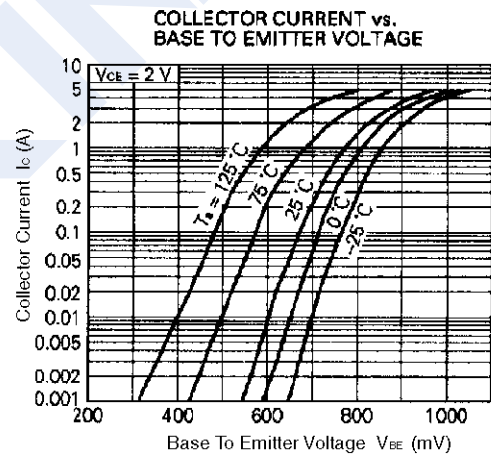
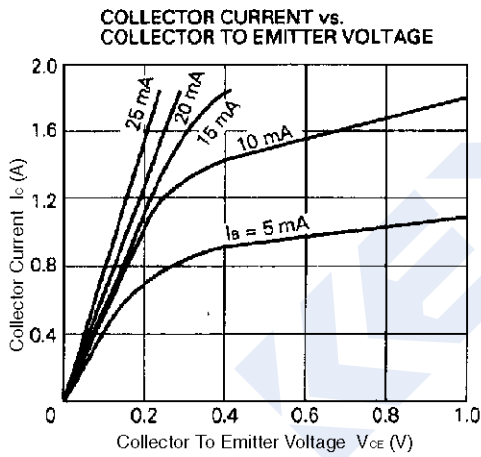
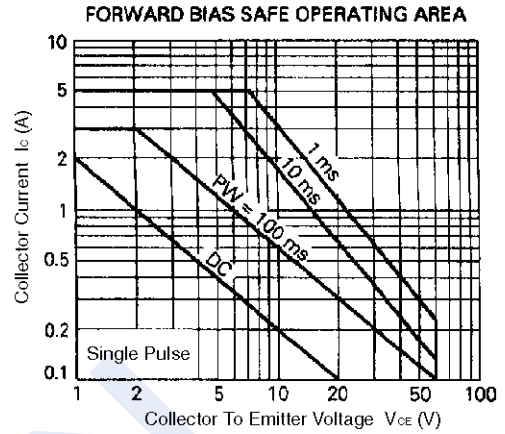
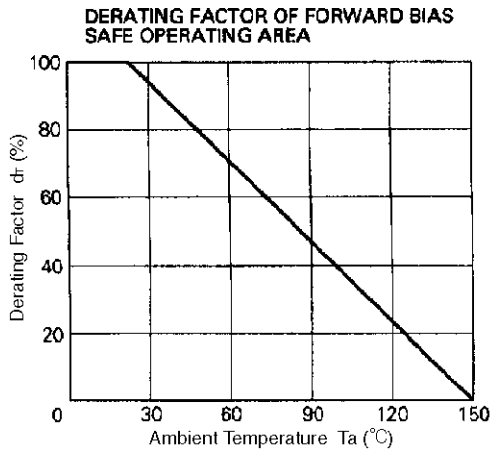
Type	2SD2403-X	2SD2403-Y	2SD2403-Z
Range	100-200	160-320	200-400
Marking	GX	GY	GZ



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■ Typical Characteristics



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