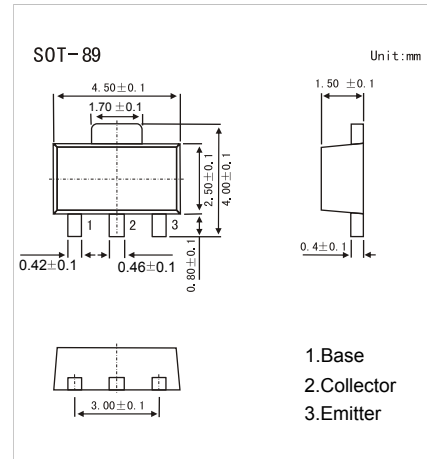


NPN Transistors

2SD2402

■ Features

- High current capacitance
- Low collector saturation voltage
- Complementary to 2SB1571



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	50	V
Collector - Emitter Voltage	V_{CE0}	30	
Emitter - Base Voltage	V_{EB0}	6	
Collector Current - Continuous	I_C	5	A
Collector Current - Pulse	I_{CP}	8	
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}	$I_C = 100 \mu\text{A}, I_E = 0$	50			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1 \text{ mA}, I_B = 0$	30			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}, I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6 \text{ V}, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 150 \text{ mA}$		0.14	0.3	V
		$I_C = 5 \text{ A}, I_B = 250 \text{ mA}$		0.23	0.5	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3 \text{ A}, I_B = 150 \text{ mA}$		0.88	1.2	V
Base - emitter voltage	V_{BE}	$V_{CE} = 1 \text{ V}, I_C = 100 \text{ mA}$	0.6		0.7	
DC current gain	h_{FE}	$V_{CE} = 1 \text{ V}, I_C = 1 \text{ A}$	80			
		$V_{CE} = 1 \text{ V}, I_C = 2 \text{ A}$	100		400	
Turn-on time	t_{on}	$I_C = 2.0 \text{ A}, V_{CC} = 10 \text{ V}$		275		ns
Storage time	t_{stg}	$I_{B1} = -I_{B2} = 0.1 \text{ A}$		485		
Fall time	t_f	$R_L = 500 \Omega$		45		
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		60		μF
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_E = -500 \text{ mA}, f = 1 \text{ MHz}$		170		MHz

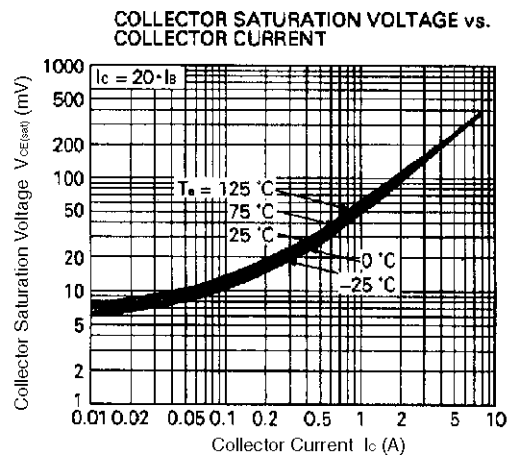
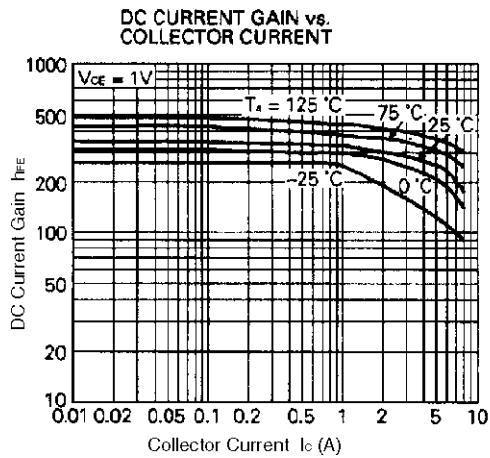
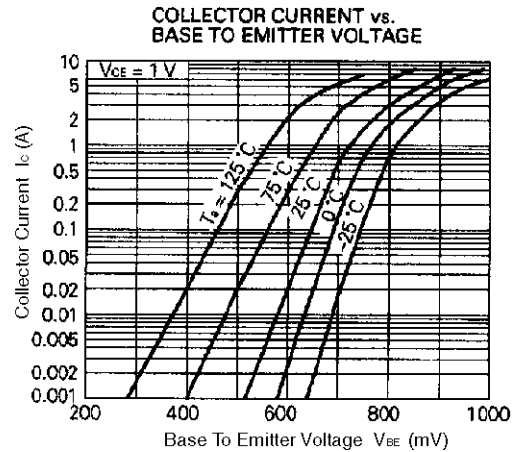
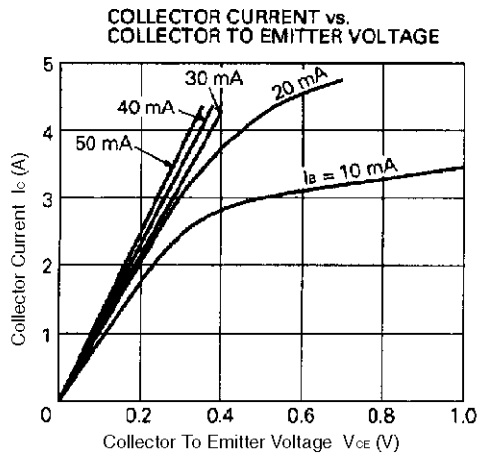
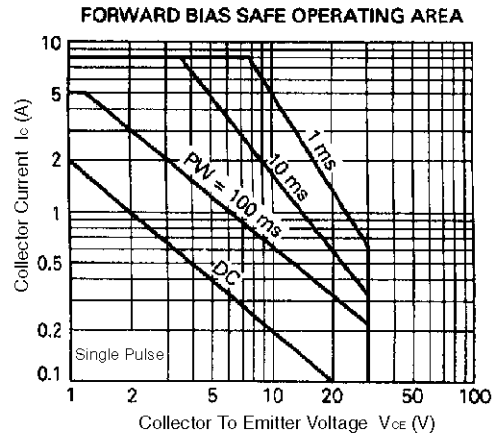
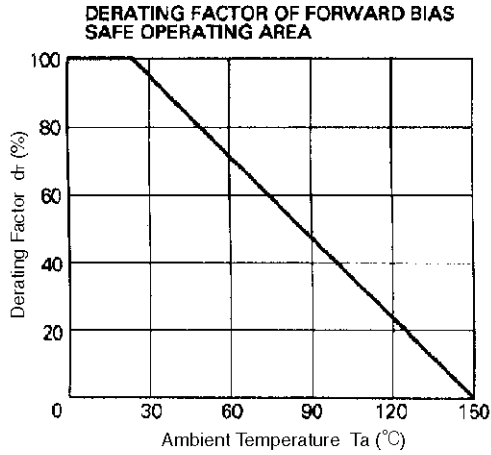
■ Classification of $h_{FE}(2)$

Type	2SD2402-X	2SD2402-Y	2SD2402-Z
Range	100-200	160-320	200-400
Marking	EX	EY	EZ

NPN Transistors

2SD2402

■ Typical Characteristics



NPN Transistors

2SD2402

■ Typical Characteristics

