

F2SC5585E**List**

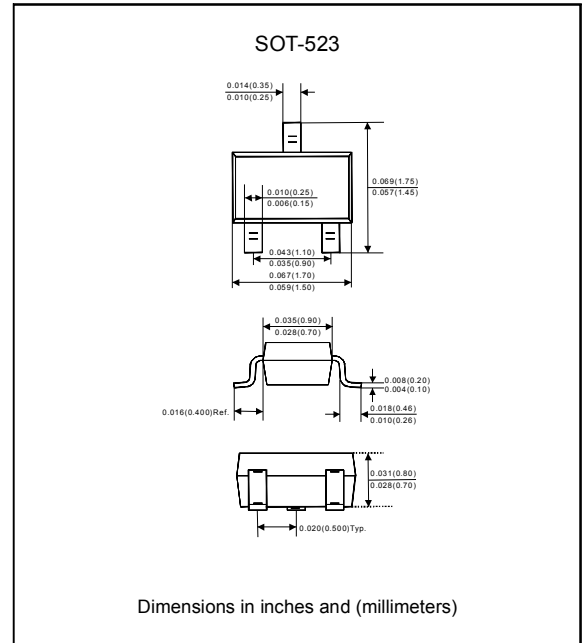
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F2SC5585E**NPN Epitaxial Silicon Transistor****Features**

- High current.
- Low $V_{CE(sat)} \cdot V_{CE(sat)} \leq 250\text{mV}$ at $I_C = 200\text{mA} / I_B = 10\text{mA}$.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-89
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

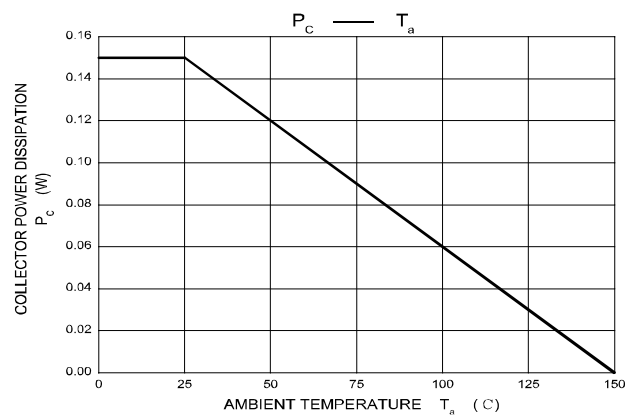
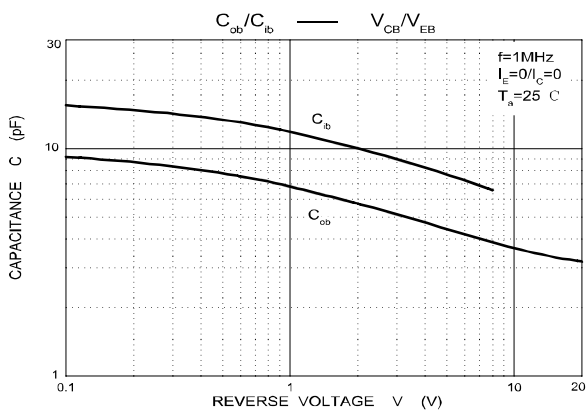
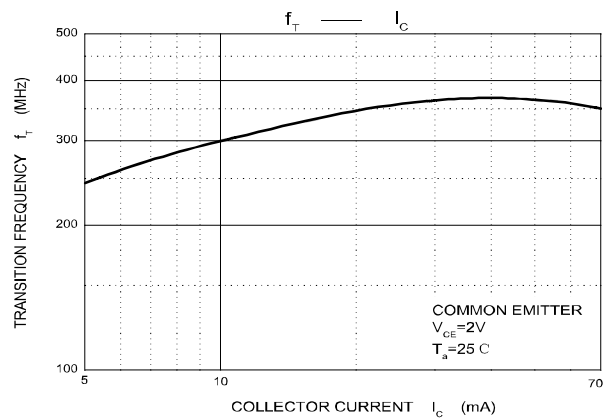
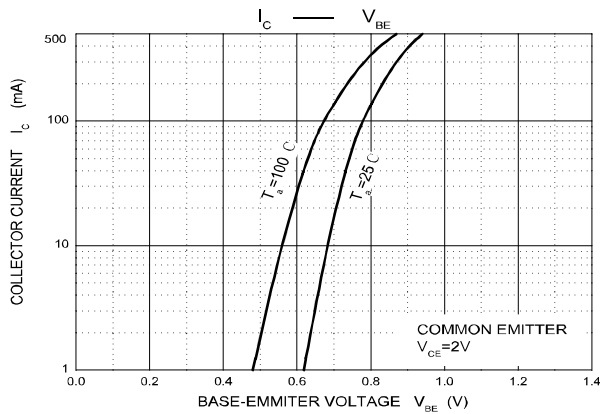
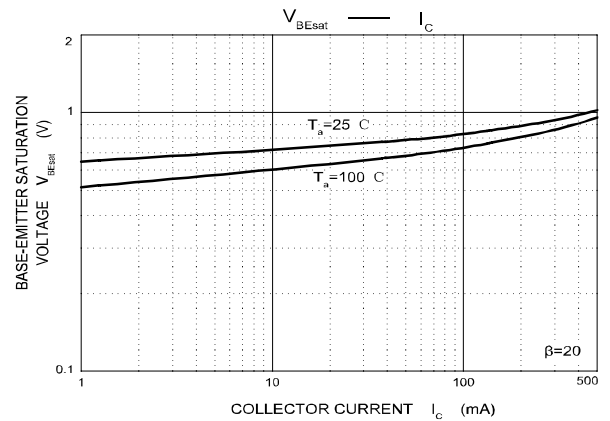
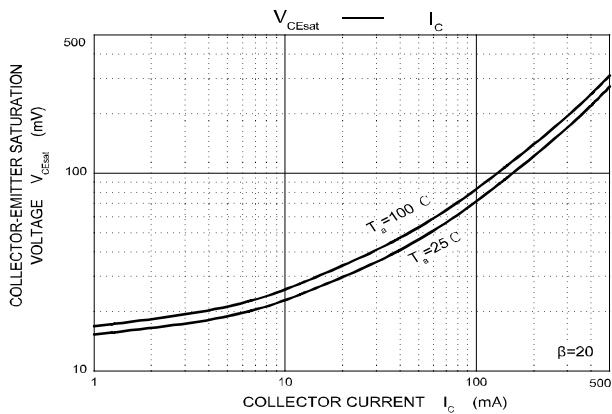
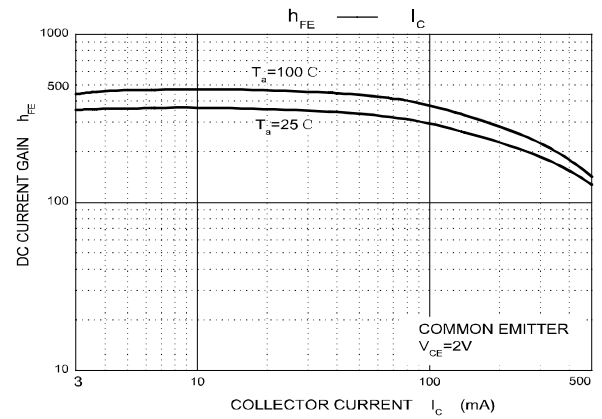
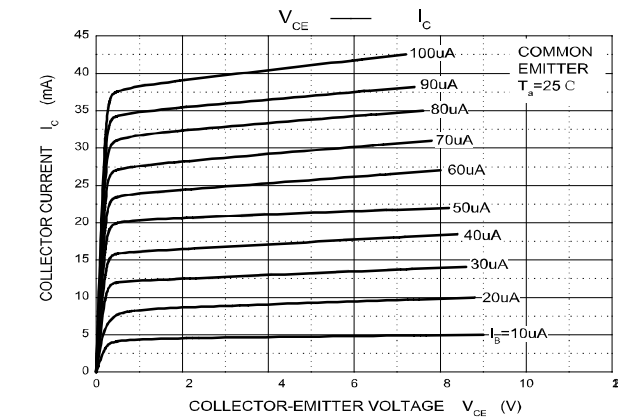
Package outline**Maximum ratings** (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to Emitter Voltage	V_{CEO}	12	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	0.5	A
Total power dissipation	P_C	0.15	W
Junction temperature	T_j	+150	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

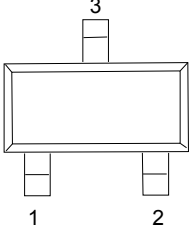
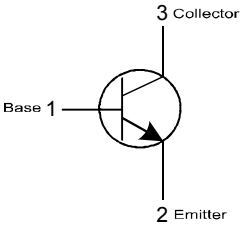
Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector to base breakdown voltage	$I_C=1\mu\text{A}, I_E=0$	BV_{CBO}	15			V
Collector to emitter breakdown voltage	$I_C=1\text{mA}, I_B=0$	BV_{CEO}	12			V
Emitter to base breakdown voltage	$I_E=1\mu\text{A}, I_C=0$	BV_{EBO}	6			V
Collector cut-off current	$V_{CB}=15\text{V}, I_E=0$	I_{CBO}			0.1	μA
Emitter cut-off current	$V_{EB}=6\text{V}, I_C=0$	I_{EBO}			0.1	μA
DC current gain	$V_{CE}=2\text{V}, I_C=10\text{mA}$	h_{FE}	270		680	
Collector-Emitter saturation voltage	$I_C=200\text{mA}, I_B=10\text{mA}$	$V_{CE(SAT)}$			0.25	V
Current gain bandwidth product	$V_{CE}=2\text{V}, I_C=10\text{mA}$	f_T		320		MHZ
Output capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHZ}$	C_{ob}		7.5		pF

Rating and characteristic curves (F2SC5585E)

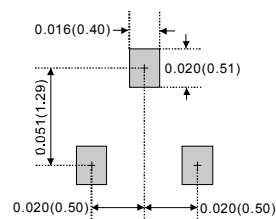


F2SC5585E**Pinning information**

Pin	Simplified outline	Symbol
Pin1 BASE Pin2 EMITTER Pin3 COLLECTOR		

Marking and resistor values

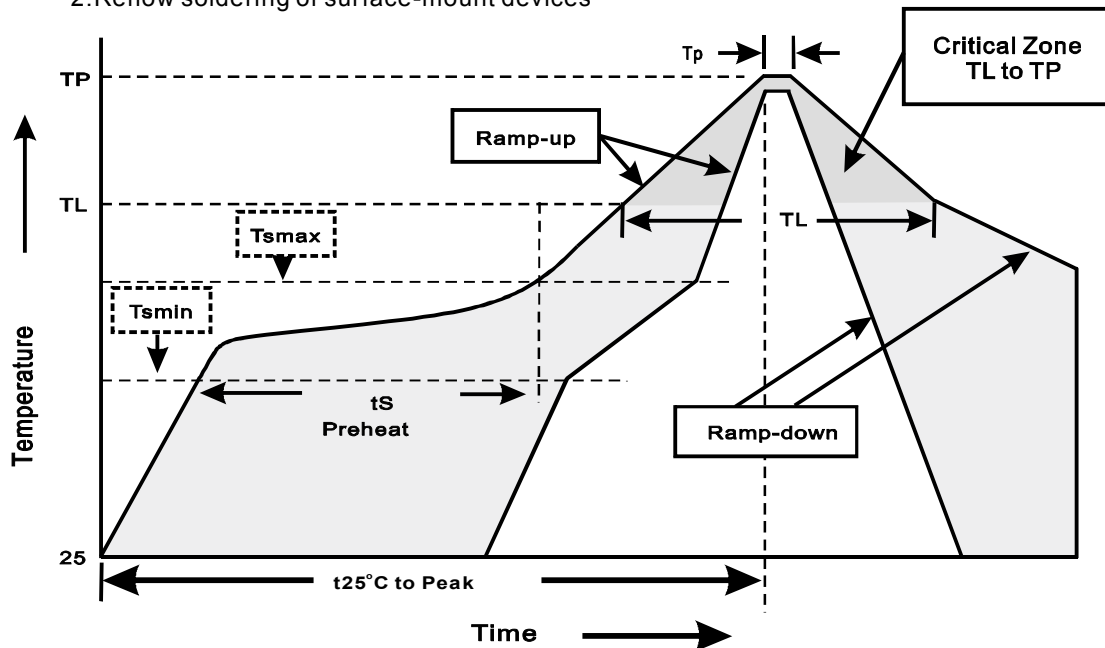
Type number	Marking code
F2SC5585E	BX

Suggested solder pad layout**SOT-523**

Dimensions in inches and (millimeters)

F2SC5585E**Suggested thermal profiles for soldering processes**

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices

**3.Reflow soldering**

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t _s)	150°C 200°C 60~120sec
Tsmax to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes