

FS8550

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FS8550

General Purpose Transistors PNP Silicon

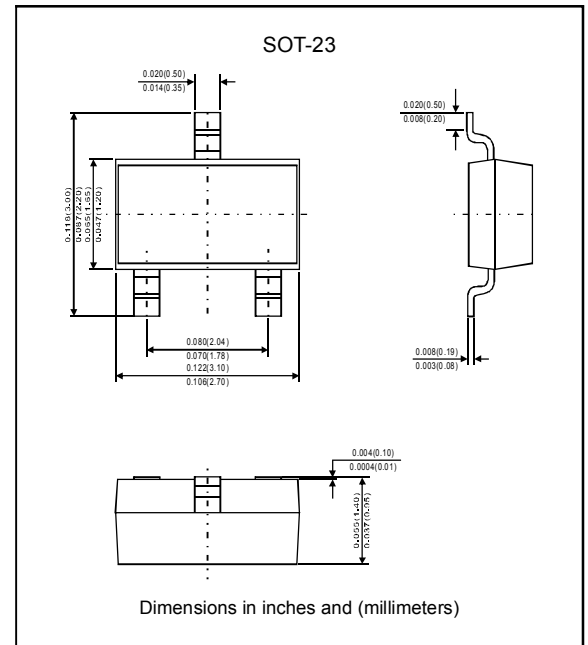
Features

- High current capacity in compact package.
- Epitaxial planar type.
- We declare that the material of product compliance with RoHS requirements.
- Pb-Free Package is available
- Suffix "-H" dinicates Halogen-free part, ex. FS8550HP-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.008 gram

Package outline



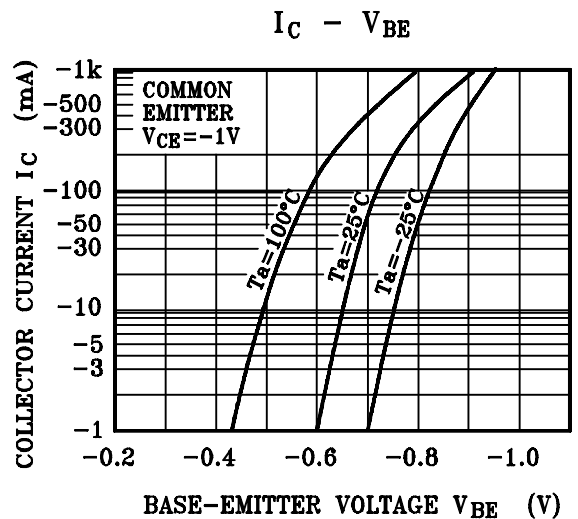
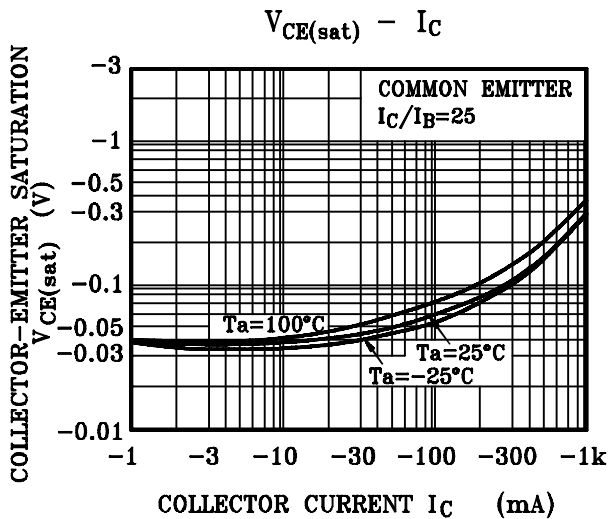
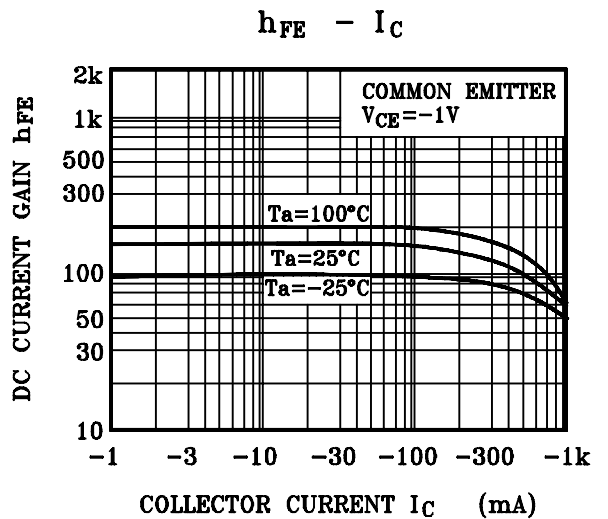
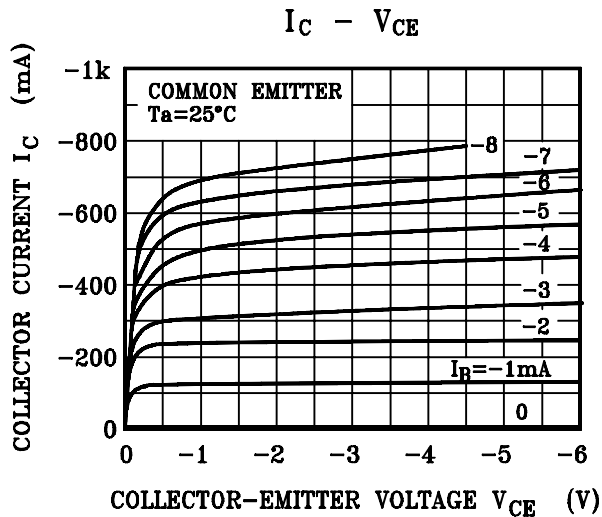
Maximum ratings (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector to base voltage	$-V_{CBO}$	40	V
Collector to Emitter Voltage	$-V_{CEO}$	25	V
Emitter to base voltage	$-V_{EBO}$	5	V
Collector current	$-I_C$	1.5	A
Total power dissipation	P_D	300	mW
Junction temperature	T_J	+150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

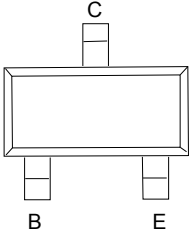
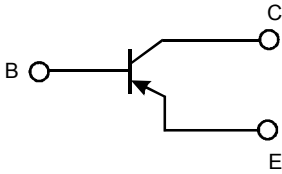
Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector base breakdown voltage	$-I_C=100\mu\text{A}, I_E=0\text{mA}$	$-V_{(BR)CBO}$	40			V
Collector emitter breakdown voltage	$-I_C=0.1\text{mA}, I_E=0\text{mA}$	$-V_{(BR)CEO}$	25			V
Emitter base breakdown voltage	$-I_E=100\mu\text{A}, I_C=0\text{mA}$	$-V_{(BR)EBO}$	5			V
Collector-base cut off current	$-V_{CB}=40\text{V}, I_E=0\text{mA}$	$-I_{CBO}$			0.1	μA
Collector-emitter cut off current	$-V_{CE}=20\text{V}, I_B=0\text{mA}$	$-I_{CEO}$			0.1	μA
Emitter-Base cut-off current	$-V_{EB}=5\text{V}, I_C=0\text{mA}$	$-I_{EBO}$			0.1	μA
Collector-emitter saturation voltage	$-I_C=800\text{mA}, -I_B=80\text{mA}$	$-V_{CE(sat)}$			0.5	V
Base-emitter saturation voltage	$-I_C=800\text{mA}, -I_B=80\text{mA}$	$-V_{BE(sat)}$			1.2	V
Base-emitter positive favor voltage	$-I_B=1\text{A}$	V_{BEF}			1.55	V
DC current gain	$-V_{CE}=1\text{V}, -I_C=100\text{mA}$	h_{FE1}	200		350	
	$-V_{CE}=1\text{V}, -I_C=800\text{mA}$	h_{FE2}	40			
Transition Frequency	$-V_{CE}=10\text{V}, -I_C=50\text{mA}, f=30\text{MHz}$	f_T	100			MHz
Output capacitance	$-V_{CB}=10\text{V}, -I_E=0\text{mA}, f=1\text{MHz}$	C_{ob}			20	pF

Rating and characteristic curves (FS8550)



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Pinning information

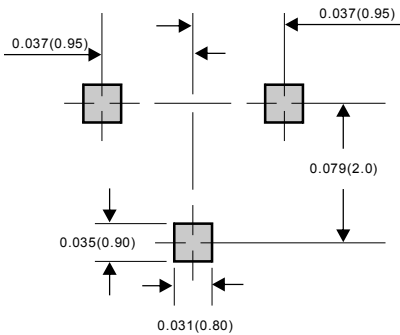
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
FS8550	Y2

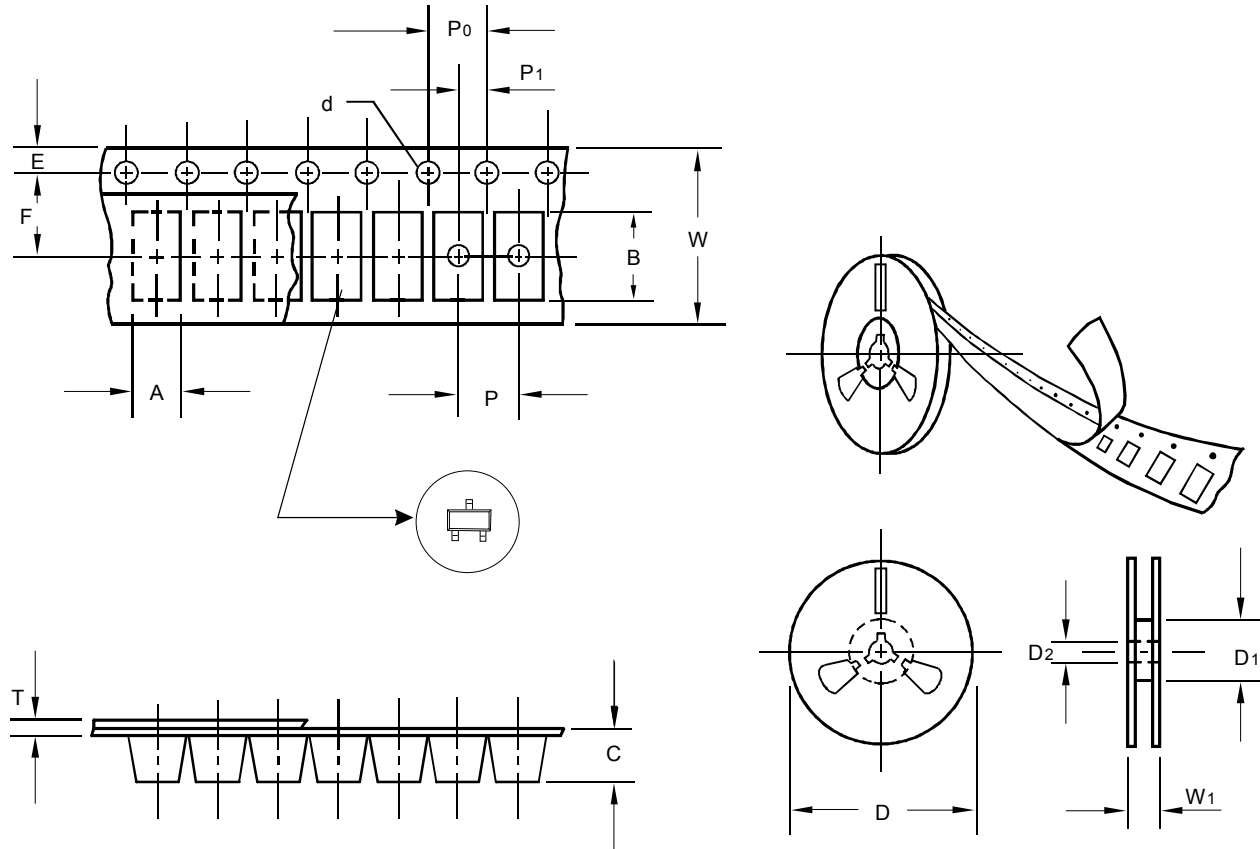
Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)

FS8550



unit:mm

Item	Symbol	Tolerance	SOT-23
Carrier width	A	0.1	3.15
Carrier length	B	0.1	2.77
Carrier depth	C	0.1	1.22
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	55.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.0

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

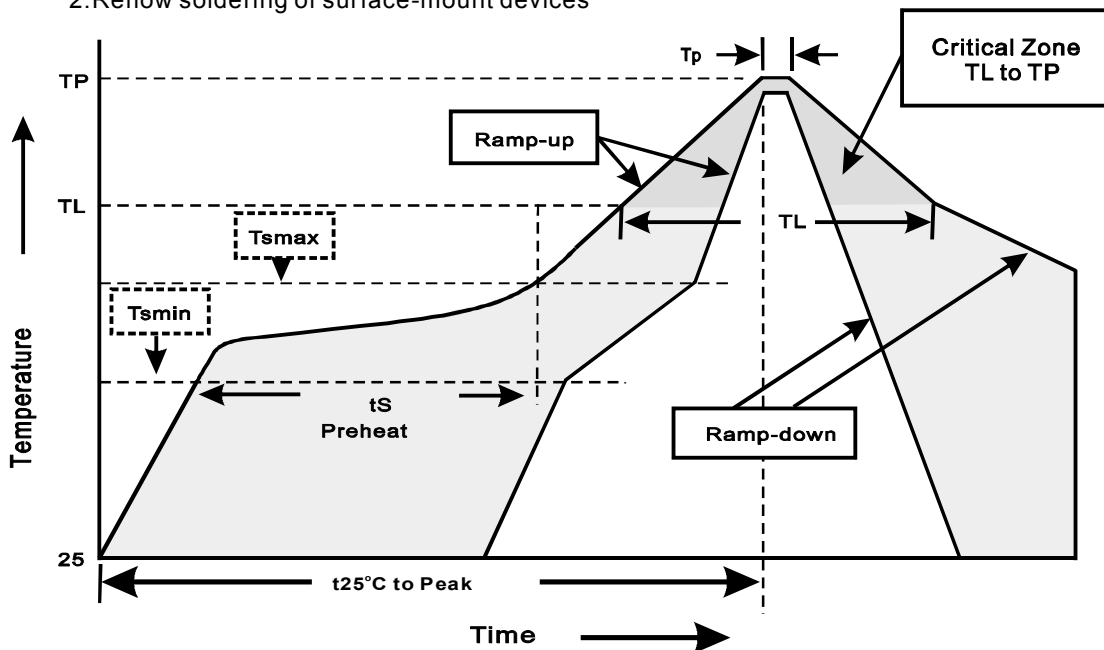
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOT-23	7"	3,000	4.0	30,000	183*183*123	178	382*262*387	240,000	11.6

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(T_{smin}) - Temperature Max(T_{smax}) - Time(min to max)(t_s)	150°C 200°C 60~120sec
T_{smax} 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