



STF2907A

SMALL SIGNAL PNP TRANSISTOR

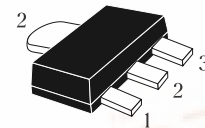
PRELIMINARY DATA

Type	Marking
STF2907A	03F

- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- MINIATURE SOT-89 PLASTIC PACKAGE FOR SURFACE MOUNTING CIRCUITS
- TAPE & REEL PACKING
- THE NPN COMPLEMENTARY TYPE IS STF2222A

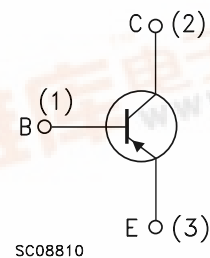
APPLICATIONS

- WELL SUITABLE FOR PORTABLE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTOR WITH HIGH GAIN AND LOW SATURATION VOLTAGE



SOT-89

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Emitter Voltage ($I_E = 0$)	-60	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-60	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-5	V
I_C	Collector Current	-0.6	A
I_{CM}	Collector Peak Current ($t_p < 5$ ms)	-0.8	A
P_{tot}	Total Dissipation at $T_C = 25$ °C	1.2	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

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THERMAL DATA

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	104.1	°C/W
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• Device mounted on a PCB area of 1 cm²

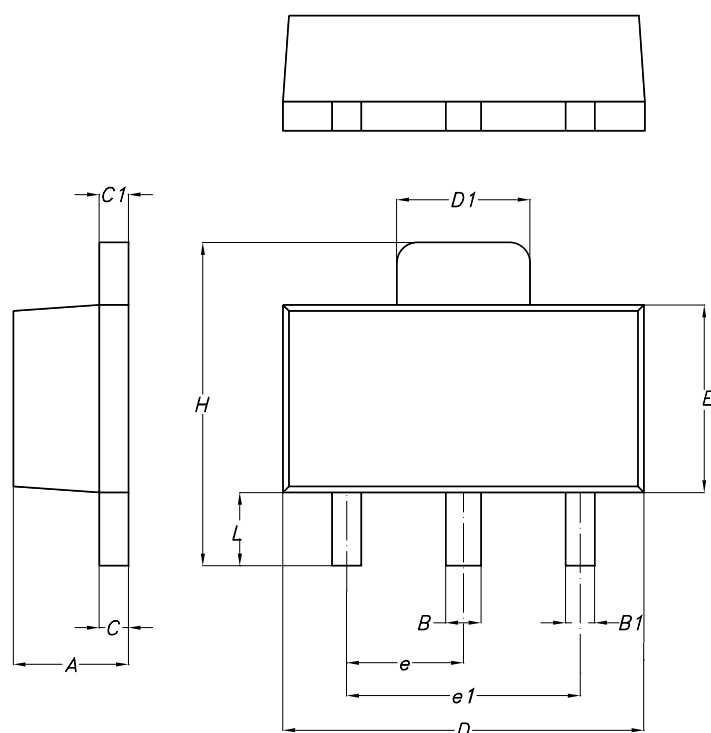
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEX}	Collector Cut-off Current (V _{BE} = -3 V)	V _{CE} = -30 V			-50	nA
I _{BEX}	Base Cut-off Current (V _{BE} = -3 V)	V _{CE} = -30 V			-50	nA
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = -50 V			-10	nA
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = -10 mA	-60			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _E = 0)	I _C = -10 µA	-60			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = -10 µA	-5			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = -150 mA I _B = -15 mA I _C = -500 mA I _B = -50 mA			-0.4 -1.6	V V
V _{BE(sat)} *	Collector-Base Saturation Voltage	I _C = -150 mA I _B = -15 mA I _C = -500 mA I _B = -50 mA			-1.3 -2.6	V V
h _{FE} *	DC Current Gain	I _C = -0.1 mA V _{CE} = -10 V I _C = -1 mA V _{CE} = -10 V I _C = -10 mA V _{CE} = -10 V I _C = -150 mA V _{CE} = -10 V I _C = -500 mA V _{CE} = -10 V	75 100 100 100 50		300	
f _T	Transition Frequency	I _C = -50 mA V _{CE} = -20V f = 100MHz	200			MHz
C _{CBO}	Collector-Base Capacitance	I _E = 0 V _{CB} = -10 V f = 1 MHz			8	pF
C _{EBO}	Emitter-Base Capacitance	I _C = 0 V _{EB} = -2 V f = 1 MHz			30	pF
t _d	Delay Time	I _C = -150 mA I _B = -15 mA V _{CC} = -30V			10	ns
t _r	Rise Time				40	ns
t _{on}	Switching On Time				45	ns
t _s	Storage Time	I _C = -150 mA I _{B1} = -I _{B2} = -15mA V _{CC} = -30V		190		ns
t _f	Fall Time				30	ns
t _{off}	Switching Off Time			220		ns

* Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

SOT-89 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	1.4		1.6	55.1		63.0
B	0.44		0.56	17.3		22.0
B1	0.36		0.48	14.2		18.9
C	0.35		0.44	13.8		17.3
C1	0.35		0.44	13.8		17.3
D	4.4		4.6	173.2		181.1
D1	1.62		1.83	63.8		72.0
E	2.29		2.6	90.2		102.4
e	1.42		1.57	55.9		61.8
e1	2.92		3.07	115.0		120.9
H	3.94		4.25	155.1		167.3
L	0.89		1.2	35.0		47.2



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