Solid State Devices, Inc.
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Phone: (562) 404-4474 * Fax: (562) 404-1773
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SFT2805

-30 mA, -25 V
Dual PNP Transistor

DESIGNER'S DATA SHEET

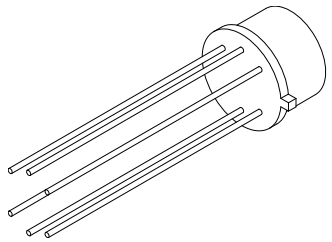
Part Number / Ordering Information [1/]

SFT2805 ___
Screening[2/]
___ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Features:
- Hermetically Sealed Package
- Replacement for 2N2805
- Complementary Use with 2N2639 – 2N2644 Dual NPN Transistors
- TX, TXV, S-Level Screening Available - Consult Factory

Maximum Ratings	Symbol	Each Triode	Total Device	Units
Collector – Base Voltage	V_{CBO}	-25	-	V
Collector – Emitter Voltage[3/]	V_{CEO}	-20	-	V
Emitter – Base Voltage	V_{EBO}	-5	-	V
Continuous Collector Current	I_C	-30	-	mA
Continuous Device Dissipation @ T_A = 25°C[4/] Continuous Device Dissipation @ T_C = 25°C[5/]	P_D	0.25 0.5	0.5 1	W
Storage Temperature Range	T_J & T_{STG}	-65 to +200		°C
Lead Temperature 1/16 inch from Case for 10 Seconds		230°C		°C/W

NOTES:
*Pulse Test: Pulse Width = 300 µsec, Duty Cycle < 2%
1/ For ordering information, price, and availability, contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ This value applies when the base-emitter diode is open-circuited.
4/ For each triode derate linearly to 175°C free-air temperature at the rate of 1.67 mW/°C.
5/ For each triode derate linearly to 175°C case temperature at the rate of 3.33 mW/°C.



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Individual Triode Characteristics[6/7/]		Symbol	Min	Max	Units
Collector–Emitter Breakdown Voltage[8/]	I_C = -10 mA, I_B = 0	$V_{(BR)CEO}$	-20	—	V
Collector Cutoff Current	V_{CB} = -25 V, I_E = 0	I_{CBO1}	—	-10	nA
	V_{CB} = -25 V, I_E = 0, T_A = 150°C	I_{CBO2}	—	-10	µA
Emitter Cutoff Current	V_{EB} = -5 V, I_C = 0	I_{EBO}	—	-10	nA
Static Forward Current Transfer Ratio	V_{CE} = -5 V, I_C = -10 µA	h_{FE1}	30	—	
	V_{CE} = -5 V, I_C = -100 µA	h_{FE2}	40	120	
	V_{CE} = -5 V, I_C = -100 µA, T_A = -55°C	h_{FE3}	20	—	
	V_{CE} = -5 V, I_C = -1 mA	h_{FE4}	40	—	
Base–Emitter Voltage	I_B = -1 mA, I_C = -10 mA	V_{BE}	-0.7	-0.9	V
Collector–Emitter Saturation Voltage	I_B = -1 mA, I_C = -10 mA	$V_{CE\ (SAT)}$	—	-0.5	V
Small–Signal Common–Base Input Impedance	V_{CB} = -5 V, I_E = 1 mA, f = 1 kHz	h_{ib}	25	32	Ω
Small–Signal Common–Base Reverse Voltage Transfer Ratio		h_{rb}		12 x 10^{-4}	
Small–Signal Common–Base Output Admittance		h_{ob}		1	µmho
Small–Signal Common–Emitter Forward Current Transfer Ratio	V_{CE} = -5 V, I_C = -1 mA, f = 1 kHz	h_{fe}	40	200	
Small–Signal Common–Emitter Forward Current Transfer Ratio	V_{CE} = -5 V, I_C = -1 mA, f = 20 MHz	$\lvert h_{fe} \rvert$	3	—	
Common–Base Open–Circuit Output Capacitance	V_{CB} = -5 V, I_E = 0, f = 1 MHz	C_{obo}	—	8	pF

Triode Matching Characteristics[7/]		Symbol	Min	Max	Units
Static Forward–Current–Gain Balance Ratio	V_{CE} = -5 V, I_C = -100 µA[10/]	$\frac{h_{FE1}}{h_{FE2}}$	0.9	1	
Base–Emitter–Voltage Differential	V_{CE} = -5 V, I_C = -100 µA	$\lvert V_{BE1} - V_{BE2} \rvert$	—	5	mV
Base–Emitter–Voltage–Differential Temperature Gradient	V_{CE} = -5 V, I_C = -100 µA, ΔT_A = [25°C – (-55°C)] and [125°C – 25°C)]	$\frac{\Delta(V_{BE1} - V_{BE2})}{\Delta T_A}$	—	10	µV/°C

Individual Triode Characteristics[6/9/]		Symbol	Max	Units
Average Noise Figure	V_{CB} = -5 V, I_E = 10 µA, R_G = 10 kΩ, Noise Bandwidth = 15.7 kHz[11/]	$\bar{F}$	—	V

NOTES:

6/ The terminals of the triode not under test are open-circuited for the measurement of these characteristics.

7/ Electrical characteristics at 25°C free-air temperature (unless otherwise noted).

8/ This parameter must be measured using pulse techniques. t_w = 300 µs, duty cycle < 2%.

9/ Operating characteristics at 25°C free-air temperature.

10/ The lower of the two h_{FE} readings is taken as h_{FE1}.

11/ Average Noise Figure is measured in an amplifier with low-frequency response down 3 dB at 10 Hz and 10 kHz and a high-frequency roll off, of 6 dB/octave.

12/ Contact factory for case outlines.