Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFT2222A Series

800 mA 75 Volts NPN High Speed Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SFT2222A

Screening [2/] **__=** Commercial
TX= TX Level
TXV= TXV Level
S= S Level

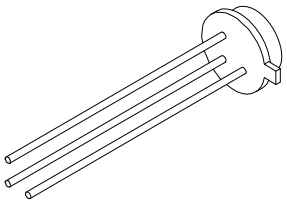
Package
-4 = LCC4
/18 = TO-18
/46 = TO-46

Features:
- High Speed Switching Transistor
- Multiple Devices Reduce Board Space
- High Power Dissipation: Up to 500 mW
- Replacement for 2N2222A and 2N2222AUA
- TX, TXV, S-Level Screening Available [2/]
- PNP Complimentary Parts Available (SFT2907A)

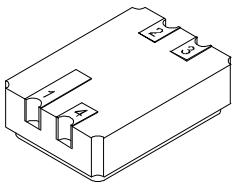
Maximum Ratings [3/]	Symbol	Value	Units
Collector – Emitter Voltage	V_{CEO}	50	Volts
Collector – Base Voltage	V_{CBO}	75	Volts
Emitter – Base Voltage	V_{EBO}	6	Volts
Continuous Collector Current	I_C	800	mA
Power Dissipation @ T_A= 25ºC	P_D	500	mW
Operating & Storage Temperature	T_{OP} & T_{stg}	-65 to +200	ºC
Maximum Thermal Resistance (Junction to PCB)	$R_{\theta JA}$	325	ºC/W

Notes:
1/ For ordering information, price, and availability contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ Unless otherwise specified, all electrical characteristics @ 25ºC.
4/ Pulse test: pulse width= 300µsec, duty cycle= 2%

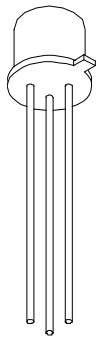
TO-46



LCC4



TO-18



Available Part Numbers:
SFT2222A-4
SFT2222A/18
SFT2222A/46

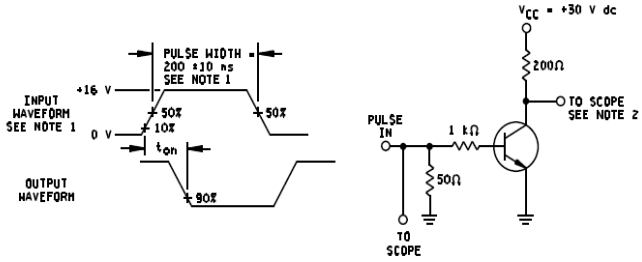
PIN ASSIGNMENT				
Package	**Function**	**Collector**	**Emitter**	**Base**
-4	Normal	Pin 1	Pin 2	Pin 3
/18	Normal	Pin 1	Pin 2	Pin 3
/46	Normal	Pin 1	Pin 2	Pin 3

Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFT2222A Series

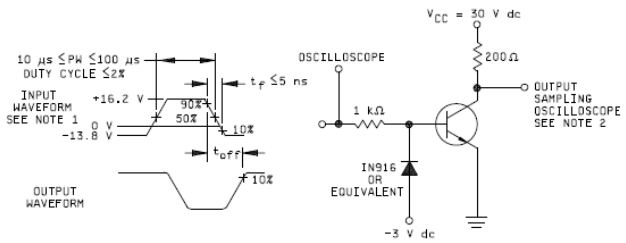
Electrical Characteristic [3/]		Symbol	Min	Max	Units
Collector – Emitter Sustaining Voltage	I_C= 10 mA	BV_{CEO}	50	—	Volts
Collector Cutoff Current	V_{CE}= 50 V	I_{CES}	—	50	nA
Collector Cutoff Current	V_{CB}= 60 V V_{CB}= 75 V V_{CB}= 60 V, T_A= 150ºC	I_{CBO}	—	0.01 10 10	µA
Emitter Cutoff Current	V_{EB}= 4.0 V V_{EB}= 6.0 V	I_{EBO}	—	0.01 10	µA
DC Forward Current Transfer Ratio [4/]	V_{CE}= 10 V, I_C= 0.1 mA V_{CE}= 10 V, I_C= 1.0 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, I_C= 10 mA, T_A= -55ºC	H_{FE}	50 75 100 100 30 35	— 325 — 300 — —	
Small-signal Forward Current Transfer Ratio	V_{CE}= 10 V, I_C= 1.0 mA, f= 1 kHz	h_{fe}	50	—	
Collector – Emitter Saturation Voltage [4/]	I_C= 150 mA, I_B= 15 mA I_C= 500 mA, I_B= 50 mA	$V_{CE(Sat)}$	— —	0.3 1.0	Volts
Base – Emitter Saturation Voltage [4/]	I_C= 150 mA, I_B= 15 mA I_C= 500 mA, I_B= 50 mA	$V_{BE(Sat)}$	0.6 —	1.2 2.0	Volts
Frequency Transition	V_{CE}= 20 V, I_C= 20 mA, f= 100 MHz	f_T	250	—	MHz
Switching Times [A/]	V_{CC}= 30 V, I_C= 150 mA, I_{B1}= 15 mA V_{CC}= 30 V, I_C= 150 mA, I_{B1}= I_{B2}= 15 mA, $V_{BE(off)}$= 3 V	t_{on} t_{off}	— —	35 300	ns
Output Capacitance	V_{CB}= 10 V, f= 1MHz	c_{ob}	—	8.0	pF
Input Capacitance	V_{EB}= 0.5 V, f= 1MHz	c_{ib}	—	25	pF

A/ t_{on}



NOTES:
1. The rise time (t_r) of the applied pulse shall be ≤ 2.0 ns, duty cycle ≤ 2 percent, and the generator source impedance shall be 50 Ω.
2. Sampling oscilloscope: Z_{IN} ≥ 100 kΩ, C_{IN} ≤ 12 pF, rise time ≤ 5 ns.

t_{off}

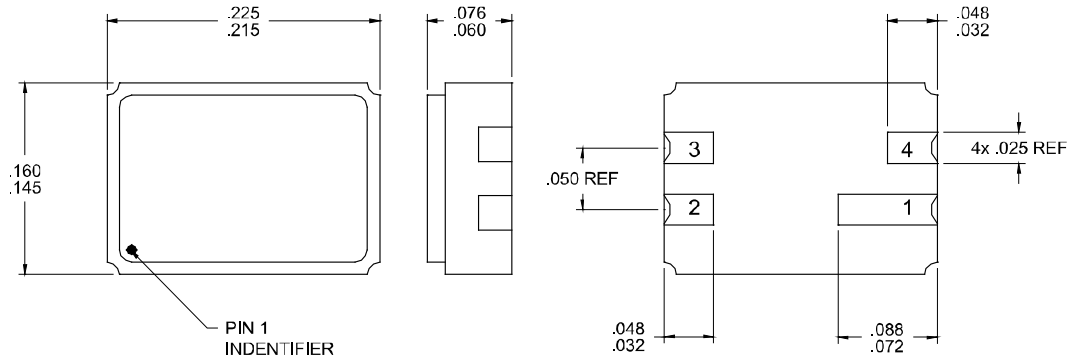


NOTES:
1. The rise time (t_r) of the applied pulse shall be ≤ 2.0 ns, duty cycle ≤ 2 percent, and the generator source impedance shall be 50 Ω.
2. Sampling oscilloscope: Z_{IN} ≥ 100 kΩ, C_{IN} ≤ 12 pF, rise time ≤ 5 ns.

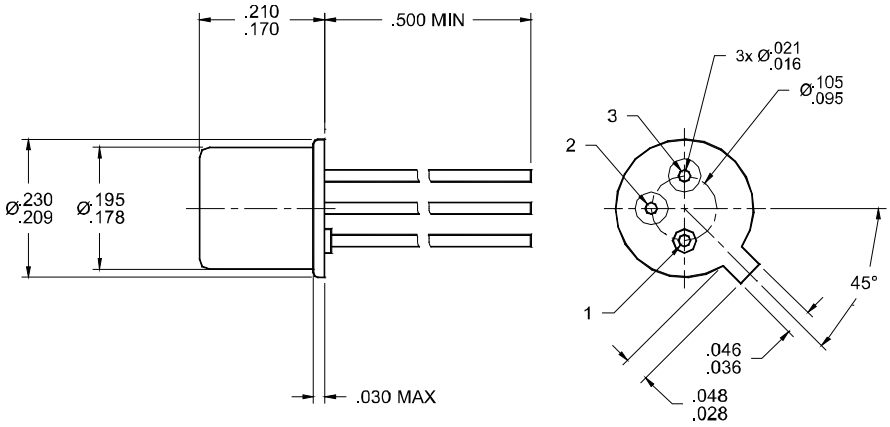
Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFT2222A Series

LCC4 (-4)



TO-18 (/18)



TO-46 (/46)

