Solid State Devices, Inc.
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ssdi@ssdi-power.com * www.ssdi-power.com

SFT22907GW Series

Dual Microminiature Package 600 mA 60 Volts Complimentary NPN & PNP Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SFT22907 **GW**

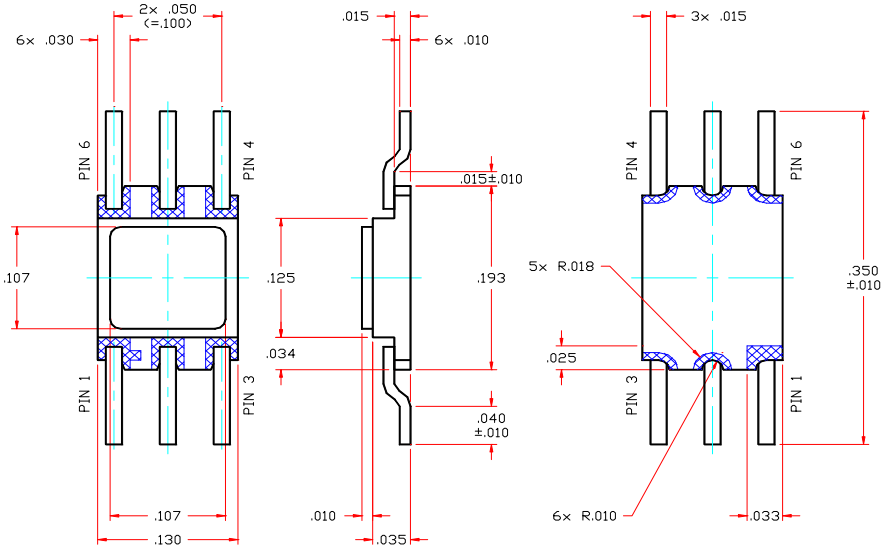
Screening [2/] __ = Commercial
TX = TX Level
TXV = TXV Level
S = S Level

Package GW = Gullwing

Features:
- High Speed Switching Transistor
- Multiple Devices Reduce Board Space
- High Power Dissipation: Up to 1.2 W / device
- TX, TXV, S-Level screening available
- Replaces both 2N2222AU & 2N2907AU

Maximum Ratings	Symbol	2N2222 NPN	2N2907 PNP	Units
Collector – Emitter Voltage	V_{CEO}	50	60	Volts
Collector – Base Voltage	V_{CBO}	75	60	Volts
Emitter – Base Voltage	V_{EBO}	6	5	Volts
Continues Collector Current	I_C	800	600	mAmps
Power Dissipation @ T_A = 25°C Per device	P_D	500	500	mW
Power Dissipation @ T_A = 25°C Total		660		
Operating & Storage Temperature	T_{op} & T_{stg}	-65 to +200	-65 to +200	°C
Maximum Thermal Resistance Junction to PCB	$R_{0J\text{-}PCB}$	245	245	°C/W

Gullwing (GW)



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TR0032F

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Electrical Characteristics [4]	Symbol	NPN Bias	Limit	PNP Bias	Limit
Collector – Emitter Sustaining Voltage	BV_{CEO}	I_C = 10 mA	50V	I_C = 10 mA	60V
Collector Cutoff Current	I_{CES}	V_{CE} = 50 V	50 nA max	V_{CE} = 50 V	50 nA max
Collector Cutoff Current	I_{CBO}	V_{CB} = 60 V V_{CB} = 75 V V_{CB} = 60 V, T_A = 150°C	10 nA max 10 µA max 10 µA max	V_{CB} = 50 V V_{CB} = 60 V V_{CB} = 50 V, T_A = 150°C	10 nA max 10 µA max 10 µA max
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4 V V_{EB} = 6 V	10 nA max 10 µA max	V_{EB} = 4 V V_{EB} = 5 V	50 nA max 10 µA max
DC Current Forward Transfer Ratio *	h_{FE}	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	50 min 75 - 325 100 min 100 - 300 30 min	I_C = 100 µA, 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 min 100 - 450 100 min 100 - 300 50 min
DC Current Forward Transfer Ratio *	h_{FE}	I_C = 10 mA, V_{CE} = 10 V T_A = -55°C	35 min	I_C = 10 mA, V_{CE} = 10 V T_A = -55°C	50 min
Small Signal Current Gain (f = 1 kHz)	h_{fe}	I_C = 1.0 mA, V_{CE} = 10 V	50 - 300	—	—
Collector-Emitter Saturation Voltage *	$V_{CE\ (SAT)}$	I_C = 150 mA, I_B = 15 mA I_C = 500 mA, I_B = 50 mA	0.3V max 1.0V max	I_C = 150 mA, I_B = 15 mA I_C = 500 mA, I_B = 50 mA	0.4 V max 1.6 V max
Base-Emitter Saturation Voltage *	$V_{BE\ (SAT)}$	I_C = 150 mA, I_B = 15 mA I_C = 500 mA, I_B = 50 mA	0.6 – 1.2V 2.0V max	I_C = 150 mA, I_B = 15 mA I_C = 500 mA, I_B = 50 mA	0.6 - 1.3 V 2.6 V max
Frequency Transition (Small signal current gain) @ f = 100MHz	f_T	V_{CE} = 20 V, I_C = 20 mA, f = 100 MHz	250 MHz min	V_{CE} = 20 V, I_C = 20 mA, f = 100 MHz	200 MHz min
Output Capacitance	C_{ob}	V_{CB} = 10 V, f = 1 MHz	8.0 pF max	V_{CB} = 10 V, f = 1.0 MHz	8.0 pF max
Input Capacitance	C_{ib}	V_{EB} = 0.5 V, f = 1 MHz	25 pF max	V_{BE} = 2.0 V, f = 1.0 MHz	30 pF max
Switching Times	$t_{(on)}$	V_{cc} = -30 V, I_C = 150 mA, I_{B1} = I_{B2} = 15 mA, $V_{BE(off)}$ = 3V	35 ns max	V_{cc} = -30 V, I_C = 150 mA, I_{B1} = I_{B2} = 15 mA, $V_{BE(off)}$ = 3V	45 ns max
	$t_{(off)}$	V_{cc} = -30 V, I_C = 150 mA, I_{B1} = I_{B2} = 15 mA, $V_{BE(off)}$ = 3V	300 ns max	V_{cc} = -30 V, I_C = 150 mA, I_{B1} = I_{B2} = 15 mA, $V_{BE(off)}$ = 3V	300 ns max

NOTES:

* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500

3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

Available Part Numbers:

SFT22907GW

PIN ASSIGNMENT						
Package	**Pin 1**	**Pin 2**	**Pin 3**	**Pin 4**	**Pin 5**	**Pin 6**
GW	Collector SFT2222	Base SFT2222	Emitter SFT2222	Collector SFT2907	Base SFT2907	Emitter SFT2907

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