



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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# SFT5926/63

## 150V, 100 AMP POWER TRANSISTOR SILICON NPN 350 WATTS

**DESIGNER'S DATA SHEET**

**Part Number / Ordering Information** <sup>1/</sup>

SFT5926

Screening <sup>2/</sup>      = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

Package  
 /63 = TO-63

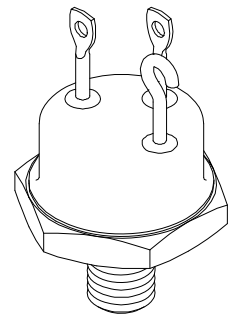
- Features:**
- High Frequency transistor with BVCEO to 120 Volts
  - Enhanced SOA capability and Fast Switching
  - High Power Dissipation: 350 Watts
  - 200°C Operating Temperature
  - Replacement for 2N5926
  - TX, TXV, S-Level Screening Available<sup>2/</sup> - Consult Factory

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V <sub>CEO</sub>	120	Volts
Collector – Base Voltage	V <sub>CBO</sub>	150	Volts
Emitter – Base Voltage	V <sub>EBO</sub>	10	Volts
Collector Current	I <sub>C</sub>	100	Amps
Base Current	I <sub>B</sub>	20	Amps
Total Device Dissipation @ TC = 25°C Derate above 25°C	P <sub>D</sub>	350 2	W W/°C
Operating & Storage Temperature	Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	0.5	°C/W

**NOTES:**

- \* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%
- <sup>1/</sup>For ordering information, price, operating curves, and availability contact factory.
- <sup>2/</sup>Screening based on MIL-PRF-19500. Screening flows available on request.
- <sup>3/</sup> Unless otherwise specified, all electrical characteristics @25°C.

**TO-63**





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Electrical Characteristic <sup>3/</sup>		Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage*	$I_C = 200\text{mA}$	$BV_{CEO}$	120	-	Volts
Collector – Cutoff Current	$V_{CE} = 150\text{V}$ $V_{CE} = 100\text{V}, T_C = 150^\circ\text{C}$	$I_{CES}$	-	2 10	mA
Emitter – Cutoff Current	$V_{EB} = 10\text{V}$	$I_{EBO}$	-	1	mA
DC Current Gain *	$V_{CE} = 2\text{V}, I_C = 20\text{A}$ $V_{CE} = 2\text{V}, I_C = 50\text{A}$ $V_{CE} = 4\text{V}, I_C = 90\text{A}$ $V_{CE} = 2\text{V}, I_C = 50\text{A}, T_A = -65^\circ\text{C}$	$h_{FE}$	20 10 5 10	120 100 -	—
Collector – Emitter Saturation Voltage *	$I_C = 50\text{A}, I_B = 5\text{A}$ $I_C = 90\text{A}, I_B = 18\text{A}$	$V_{CE(Sat)}$	-	0.6 1.5	Volts
Base – Emitter Voltage *	$I_C = 50\text{A}, V_{CE} = 2\text{V}$ $I_C = 90\text{A}, V_{CE} = 4\text{V}$	$V_{BE(on)}$	-	1.5 2.5	Volts
Common Emitter Small Signal Gain	$V_{CE} = 10\text{V}, I_C = 5\text{A}, f = 100\text{kHz}$	$h_{fe}$	5	20	—
Safe Operating Area	$V_{CE} = 4\text{V}, I_C = 50\text{A}, 1\text{s}, T_C = 25^\circ\text{C}$ $V_{CE} = 50\text{V}, I_C = 1\text{A}, 1\text{s}, T_C = 25^\circ\text{C}$ $V_{CE} = 100\text{V}, I_C = 0.5\text{A}, 1\text{s}, T_C = 25^\circ\text{C}$	$SOA_1$ $SOA_2$ $SOA_3$	- - -	- - -	—
ON Time	$V_{CC} = 50\text{V}, V_{BE1} = 11.2\text{V}$ $R_C = 1\Omega, V_{BE2} = 10\text{V}$ $R_B = 2\Omega$	$t_{ON}$	-	7	$\mu\text{sec}$
Storage Time		$t_s$	-	4	$\mu\text{sec}$
Fall Time		$t_f$	-	6	$\mu\text{sec}$

