Solid State Devices, Inc.
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SFX5096/5

1 AMP, 500 Volts
High Voltage PNP Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information [1/]

SFX5096

Screening [2/] __ = No Screening
TX = TX Level
TXV = TXV Level
S = S Level

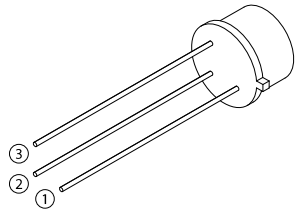
Package [3/]
/5 = TO-5

Features:
- BV_{CER} to 500 Volts
- Low Leakage at High Temperature
- High Linear Gain, Low Saturation Voltage
- 200°C Operating Temperature
- Gold Eutectic Die Attach
- TX, TXV, S-Level Screening Available
- Designed for Complementary Use with SFT5015
- Replacement for 2N5094 and 2N5096 with Lower Thermal Resistance

Maximum Ratings [4/]		Symbol	SFX5096	Units
Collector – Emitter Voltage (R_{BE} = 1kΩ)		**V_{CEO}** **V_{CER}**	400 500	**Volts** **Volts**
Collector – Base Voltage		**V_{CBO}**	500	**Volts**
Emitter – Base Voltage		**V_{EBO}**	6	**Volts**
Collector Current		**I_C**	1.0	**Amps**
Base Current		**I_B**	0.5	**Amps**
Total Power Dissipation **Derate above T_C = 25ºC**	(T_C = 25ºC) (T_A = 25ºC)	**P_D**	1.0 0.4 5.7	**Watts** **Watts** **mW /ºC**
Operating & Storage Temperature		**T_J & T_{STG}**	-65 to +200	**ºC**
Maximum Thermal Resistance (Junction to Case)	TO-5	**$R_{\theta JC}$**	30	**ºC/W**

NOTES:
1/ For ordering information, price, operating curves, and availability, contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ For Package Outlines, See Figure 1.
4/ Unless Otherwise Specified, Maximum Ratings/Electrical Characteristics at 25°C.

TO-5 (/5)



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Electrical Characteristics [4/]		Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage *	(I_C = 5 mA)	BV_{CEO}	400	—	Volts
	(I_C = 100 µA, R_{BE} = 1k Ω)	BV_{CER}	500	—	
Collector – Base Breakdown Voltage *	(I_C = 100 µA)	BV_{CBO}	500	—	Volts
Emitter – Base Breakdown Voltage	(I_E = 50 µA)	BV_{EBO}	6	—	Volts
Collector Cutoff Current	(V_{CB} = Rated, T_A = 25°C)	I_{CBO1}	—	1.0	µA
	(V_{CB} = Rated, T_A = 100°C)	I_{CBO2}	—	50	
Emitter Cutoff Current	(V_{EB} = 6 V)	I_{EBO}	—	1.0	µA
DC Current Gain *	(I_C = 1 mA, V_{CE} = 10 V)	H_{FE}	20	250	
	(I_C = 25 mA, V_{CE} = 10 V)		40	300	
	(I_C = 100 mA, V_{CE} = 10 V)		20	250	
Collector-Emitter Saturation Voltage *	(I_C = 25 mA, I_B = 2.5 mA)	$V_{CE\ (SAT)}$	—	500	mV
Base-Emitter Saturation Voltage	(I_C = 25 mA, I_B = 2.5 mA)	$V_{BE\ (SAT)}$	—	1.0	Volts
Current Gain Bandwidth Product *	(I_C = 10 mA, V_{CE} = 10 V, f = 10 MHz)	f_T	40	—	MHz
Output Capacitance	V_{CB} = 20 V, I_E = 0 A, f = 1.0MHz	C_{ob}	—	60	pF
Turn on Delay Time	V_{CC}= 100 V	T_d	—	100	ns
Rise Time	I_C= 100 mA	T_r	—	350	ns
Storage Time	I_{B1} = I_{B2} = 10 mA	T_s	—	3.2	µs
Fall Time		t_f	—	500	ns

Notes: * Pulse Test: Pulse Width = 300 µs. Duty Cycle = 2%.

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2/ Screening based on MIL-PRF-19500. Screening flows available on request.

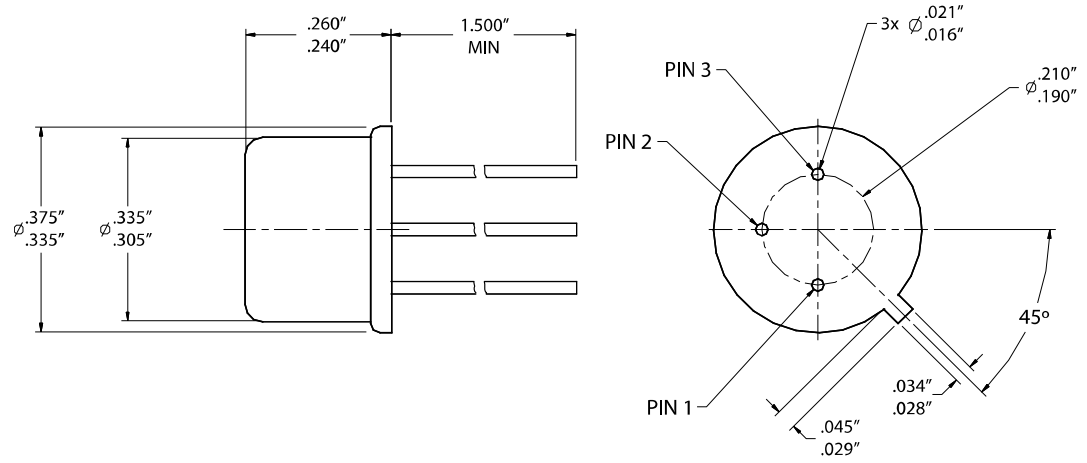
3/ For Package Outlines, See Figure 1.

4/ Unless Otherwise Specified, Maximum Ratings/Electrical Characteristics at 25°C.

PIN ASSIGNMENT (Standard)			
Package	**Collector**	**Emitter**	**Base**
TO-5 (/5)	Pin 3	Pin 1	Pin 2

FIGURE 1 – CASE OUTLINES

TO-5 (/5):



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	DATA SHEET #: TR0127A	DOC