



Solid State Devices, Inc.

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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

SFX5096/5

1 AMP, 500 Volts High Voltage PNP Transistor

Features:

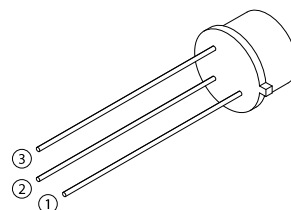
- BV_{CER} to 500 Volts
- Low Leakage at High Temperature
- High Linear Gain, Low Saturation Voltage
- 200°C Operating Temperature
- Gold Eutectic Die Attach
- TX, TXV, S-Level Screening Available
- Designed for Complementary Use with SFT5015
- Replacement for 2N5094 and 2N5096 with Lower Thermal Resistance

Maximum Ratings ^{4/}	Symbol	SFX5096	Units
Collector – Emitter Voltage ($R_{BE} = 1k\Omega$)	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 ($T_C = 25^\circ C$) Derate above $T_C = 25^\circ C$ ($T_A = 25^\circ C$)	P_D	1.0 0.4 5.7	Watts Watts mW /°C
Operating & Storage Temperature	T_J & T_{STG}	-65 to +200	°C
Maximum Thermal Resistance (Junction to Case) TO-5	$R_{\theta JC}$	30	°C/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)



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

DATA SHEET #: TR0127A

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SFX5096/5

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	—	Volts
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	μA
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 I _C = 100 mA I _{B1} = I _{B2} = 10 mA	T _d	—	100	ns
Rise Time		T _r	—	350	ns
Storage Time		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.

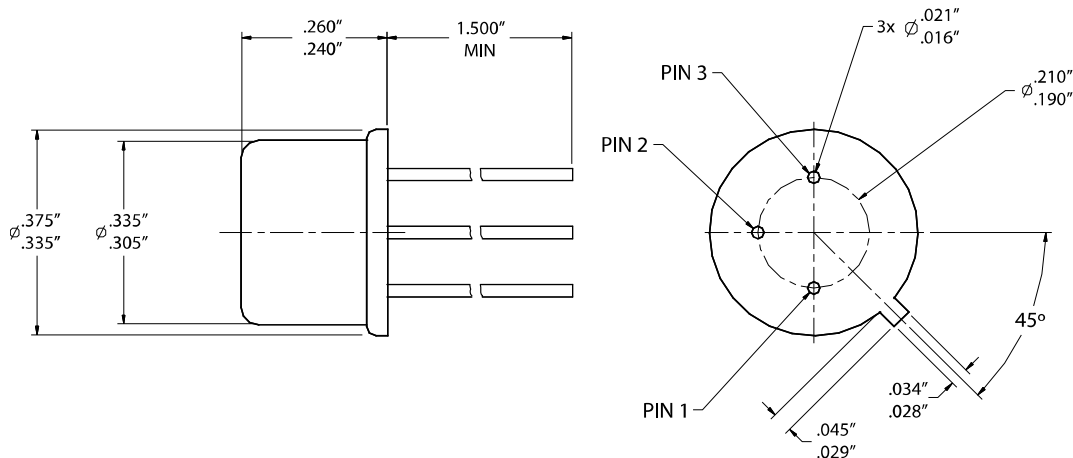
4/ Unless Otherwise Specified, Maximum Ratings/Electrical Characteristics at 25°C.

PIN ASSIGNMENT (Standard)

Package	Collector	Emitter	Base
TO-5 (/5)	Pin 3	Pin 1	Pin 2

FIGURE 1 – CASE OUTLINES

TO-5 (/5):



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