

# AZ3266

## 1.25Gbps Transimpedance Amplifier

### FEATURES

- 920 MHz Bandwidth
- 1mA Input Overload
- 6.6 pA/Hz<sup>1/2</sup> Noise Density
- Single 3.0V to 3.6V or 4.5V to 5.5V Supply
- Internal DC Restoration Capacitor
- Direct Replacement for MAX3266

### PACKAGE AVAILABILITY

PACKAGE	PART NO.	MARKING
8 SOIC	AZ3266D	AZ3266
8 SOIC T&R	AZ3266DR1	AZ3266
8 SOIC T&R	AZ3266DR2	AZ3266
DIE	AZ3266X	N/A

### DESCRIPTION

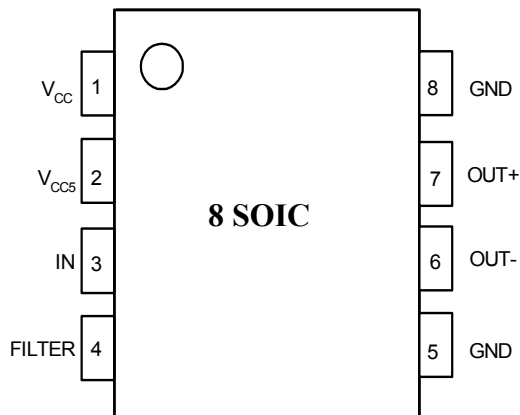
The AZ3266 is a transimpedance amplifier for 1.25Gbps fiber optic receivers. The part operates from a single 3.0V to 3.6V or 4.5V to 5.5V supply. Photodiode bias is provided via a 1.5kΩ resistor from V<sub>CC</sub>.

DC restoration is built in, with no external compensation capacitor required. The DC restoration can be disabled for testing by pulling the FILTER pin to ground potential.

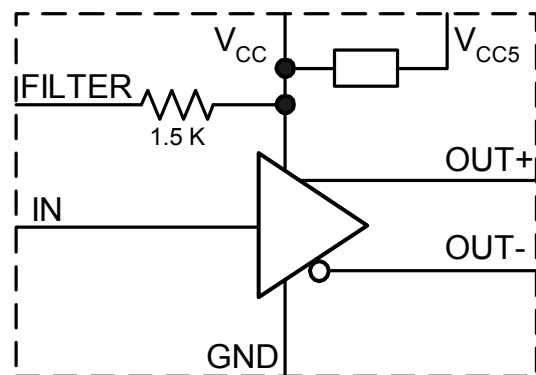
If the part is operated using the V<sub>CC5</sub> supply pin, the V<sub>CC</sub> pin should be bypassed to ground with a capacitor of at least 0.1μf.

### PIN DESCRIPTION

PIN	NAME	FUNCTION
1	V <sub>CC</sub>	Supply Voltage 3.0 to 3.6V
2	V <sub>CC5</sub>	Supply Voltage 4.5 to 5.5V
3	IN	Photodiode Input
4	FILTER	Bias Voltage Via 1.5kΩ Resistor
5	GND	Ground
6	OUT-	Inverting Output
7	OUT+	Noninverting Output
8	GND	Ground



### BLOCK DIAGRAM



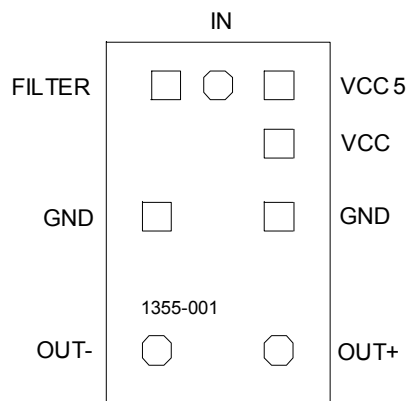
**Absolute Maximum Ratings are those values beyond which device life may be impaired.**

Symbol	Character	Value	Unit
V <sub>CC2</sub>	DC Supply Voltage (Referenced to GND)	6.0	V
T <sub>A</sub>	Operating Temperature Range (In Free-Air)	-40 to +85	°C
T <sub>STG</sub>	Storage Temperature Range	-65 to +150	°C
	IN Current	±3	mA
	FILTER Current	±3	mA

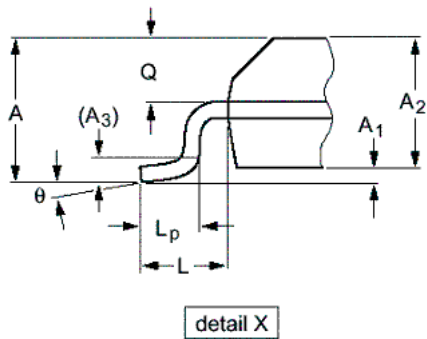
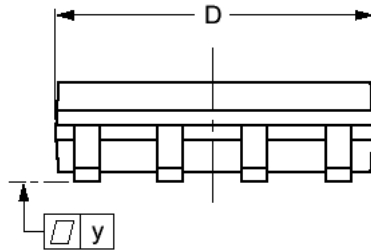
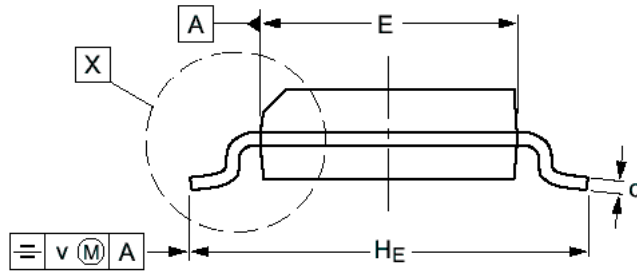
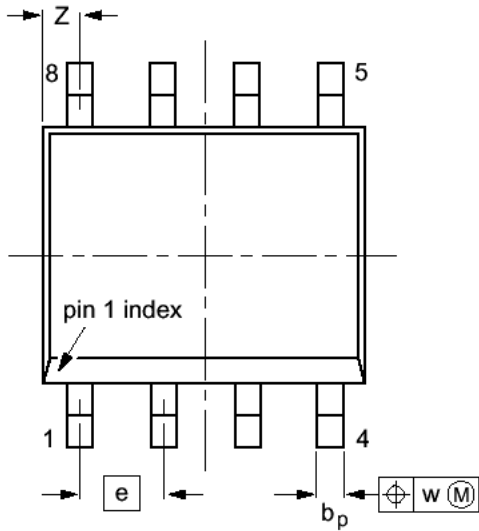
**ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 3.0V to 3.6V or V<sub>CC5</sub> = 4.5 to 5.5V; 100Ω load between OUT+ and OUT-)**

Symbol	Characteristic	Min	Typ	Max	Unit	Condition
	Input Bias Voltage	0.70	0.81	0.93	V	
I <sub>CC</sub>	Power Supply Current		21	35	mA	
	Transimpedance	2260	2800	3400	Ω	40μA p-p input
R <sub>o</sub>	Output Impedance		50		Ω	Per output pin
	Maximum Differential Output Voltage	185	250	415	mV p-p	1 mA p-p input
	Filter Resistor	1220	1500	1860	Ω	
	AC Input Overload	1.0			mA p-p	
	DC Input Overload	0.65			mA	
	Input Referred Noise Density		6.6		pA/Hz <sup>1/2</sup>	
	Small Signal Bandwidth	750	920	1100	MHz	≤40 uA p-p
	Low Frequency Cutoff		44		kHz	-3 dB, input ≤40 uA p-p
	Power Supply Rejection Ratio		50		dB	Output referred, f < 2 MHz

**Die Size: 1260 x 800 μm**  
**Pad Size: 85 x 85 μm**



**PACKAGE DIAGRAM  
SOIC 8**



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A		1.75		0.069
A <sub>1</sub>	0.10	0.25	0.004	0.010
A <sub>2</sub>	1.25	1.45	0.049	0.057
A <sub>3</sub>	0.25		0.01	
b <sub>p</sub>	0.36	0.49	0.014	0.019
c	0.19	0.25	0.0075	0.0100
D	4.8	5.0	0.19	0.20
E	3.8	4.0	0.15	0.16
e	1.27		0.050	
H <sub>E</sub>	5.80	6.20	0.228	0.244
L	1.05		0.041	
L <sub>p</sub>	0.40	1.00	0.016	0.039
Q	0.60	0.70	0.024	0.028
v	0.25		0.01	
w	0.25		0.01	
y	0.10		0.004	
Z	0.30	0.70	0.012	0.028
θ	0°	8°	0°	8°

NOTES:

1. DIMENSIONS D AND E DO NOT INCLUDE MOLD PROTRUSION.
2. MAXIMUM MOLD PROTRUSION FOR D IS 0.15mm.
3. MAXIMUM MOLD PROTRUSION FOR E IS 0.25mm.

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