

Or, Call Customer Service at 1-800-548-6132 (USA Only)

SPECIFICATIONS

ELECTRICAL

At $T_A = +25^\circ\text{C}$ and $\pm V_{CC} = 15\text{VDC}$, unless otherwise specified.

PARAMETER	CONDITIONS	ISO100AP			ISO100BP			ISO100CP			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
ISOLATION											
Voltage											V
Rated Continuous, AC peak or DC(1)		750			*			*			V
Test Breakdown, DC		2500			*			*			V
Rejection(2) DC	10s				*			*			pA/V
AC	$R_{IN} = 10\text{k}\Omega$, Gain = 100 60Hz, 480V, $R_F = 1\text{M}\Omega$ $R_{IN} = 10\text{k}\Omega$, Gain = 100		5 146 400 108			*		*	*		dB
Impedance						*		*	*		pA/V
Leakage Current	240Vrms, 60Hz		10 ¹² /2.5	0.3		*		*	*		dB
OFFSET VOLTAGE (RTI)											Ω/pF
Input Stage (V_{OSI})											μA, rms
Initial Offset				500							μV
vs Temperature			1	105			300			200	μV/°C
vs Input Power Supplies						*	*		*	*	dB
vs Time											μV/kHr
Output Stage (V_{OSO})											μV
Initial Offset				500			300			200	μV/°C
vs Temperature			1	105		*	*		*	*	dB
vs Output Power Supplies											μV/kHr
vs Time											nA/V
Common-Mode Rejection Ratio(2)	60Hz, $R_F = 1\text{M}\Omega$ $R_{IN} = 10\text{k}\Omega$, Gain = 100		1 3 90		*	*	*	*	*	*	dB
Common-Mode Range		±10			*	*	*	*	*	*	V
REFERENCE CURRENT SOURCES											
Magnitude											μA
Nominal		10.5	12	12.5	*	*	*	*	*	*	ppm/°C
vs Temperature			0.3	300		*	*	*	*	150	nA/V
vs Power Supplies				3		*	*	*	*	*	nA
Matching						*	*	*	*	*	ppm/°C
Nominal			50			*	*	*	*	*	nA/V
vs Temperature			160			*	*	*	*	*	V
vs Power Supplies			0.3			*	*	*	*	*	Ω
Compliance Voltage		-10		+15	*	*	*	*	*	*	
Output Resistance			2×10^9			*	*	*	*	*	
FREQUENCY RESPONSE											
Small Signal Bandwidth	Gain = 1V/μA		60			*	*	*	*	*	kHz
Full Power Bandwidth	Gain = 1V/μA, $V_O = \pm 10\text{V}$		5			*	*	*	*	*	kHz
Slew Rate		0.22	0.31			*	*	*	*	*	V/μs
Settling Time	0.1%		100			*	*	*	*	*	μs
TEMPERATURE RANGE											
Specification		-25		+85	*		*	*		*	°C
Operating		-40		+100	*		*	*		*	°C
Storage		-40		+100	*		*	*		*	°C
UNIPOLAR OPERATION											
GENERAL PARAMETERS											
Input Current Range											μA
Linear Operation		-20		-0.02	*		*	*		*	mA
Without Damage		-1		+1	*		*	*		*	Ω
Input Impedance			0.1		*		*	*		*	V
Output Voltage Swing	$R_L = 2\text{k}\Omega$, $R_F = 1\text{M}\Omega$ DC, Open-Loop	-10		0	*		*	*		*	Ω
Output Impedance			1200			*	*	*		*	
GAIN											
Initial Error (adjustable to zero)	$V_O = R_F (I_{IN})$		2	5		1	2		1	2	% of FS
vs Temperature			0.03	0.07		0.01	0.05		0.005	0.03	%/°C
vs Time			0.05			*			*		%/kHr
Nonlinearity(2)			0.1	0.4		0.03	0.1		0.02	0.07	%
CURRENT NOISE											pA-p
0.01Hz to 10Hz	$I_{IN} = 0.2\mu\text{A}$		20			*			*		pA/√Hz
10Hz			1			*			*		pA/√Hz
100Hz			0.7			*			*		pA/√Hz
1kHz			0.95			*			*		pA/√Hz

ISO100
ISOLATION PRODUCTS

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For Immediate Assistance, Contact Your Local Salesperson

SPECIFICATIONS (CONT)

ELECTRICAL

At $T_A = +25^\circ\text{C}$ and $\pm V_{CC} = 15\text{VDC}$, unless otherwise specified.

PARAMETER	CONDITIONS	ISO100AP			ISO100BP			ISO100CP			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
INPUT OFFSET CURRENT (I_{OS})											
Initial Offset			1	10		*	*		*	*	nA
vs Temperature			0.05			*			*		nA/°C
vs Power Supplies			0.1			*			*		nA/V
vs Time			100			*			*		pA/kHr
POWER SUPPLIES											
Input Stage											
Voltage (rated performance)		±7	±15		*	*		*	*		V
Voltage (derated performance)				±18			*		*		V
Supply Current	$I_{IN} = -0.02\mu A$ $I_{IN} = -20\mu A$		±1.1 +8, -1.1	±2 +13, -2		*	*		*	*	mA
Output Stage											
Voltage (rated performance)		±7	±15		*	*		*	*		V
Voltage (derated performance)				±18			*		*		V
Supply Current	$V_O = 0$		±1.1	±2 ±40		*	*		*	*	mA
Short Circuit Current Limit						*	*		*	*	mA
BIPOLAR OPERATION											
GENERAL PARAMETERS											
Input Current Range											
Linear Operation		-10 -1		+10 +1	*	*	*	*	*	*	μA
Without Damage			0.1		*	*	*	*	*	*	mA
Input Impedance						*			*	*	Ω
Output Voltage Swing	$R_L = 2k\Omega$, $R_F = 1M\Omega$	-10		+10	*	*	*	*	*	*	V
Output Impedance			1200		*	*	*	*	*	*	Ω
GAIN	$V_O = R_F (I_{IN})$										
Initial Error (Adjustable To Zero)			2	5		1	2		1	2	% of FS
vs Temperature			0.03	0.07		0.01	0.05		0.005	0.03	%/°C
vs Time			0.05			*	*		*	*	%/kHr
Nonlinearity ⁽³⁾			0.1	0.4		0.03	0.1		0.02	0.07	%
CURRENT NOISE	$I_{IN} = 0.2\mu A$										
0.01Hz to 10Hz			1.5			*	*		*	*	nA, p-p
10Hz			17			*	*		*	*	pA/√Hz
100Hz			7			*	*		*	*	pA/√Hz
1kHz			6			*	*		*	*	pA/√Hz
INPUT OFFSET CURRENT (I_{OS} , bipolar ⁽⁴⁾)											
Initial Offset			40	200 3 0.7		20	70		10	35 1	nA
vs Temperature							2				nA/°C
vs Power Supplies						*	*		*	*	nA/V
vs Time			250			*	*		*	*	pA/kHr
POWER SUPPLIES											
Input Stage											
Voltage (rated performance)		±7	±15		*	*		*	*		V
Voltage (derated performance)				±18			*		*		V
Supply Current	$I_{IN} = +10\mu A$ $I_{IN} = -10\mu A$		+2, -1.1 +8, -1.1	+3, -2 +13, -2		*	*		*	*	mA
Output Stage											
Voltage (rated performance)		±7	±15		*	*		*	*		V
Voltage (derated performance)				±18			*		*		V
Supply Current	$V_O = 0$		±1.1	±2 ±40		*	*		*	*	mA
Short Circuit Current Limit						*	*		*	*	mA

* Specification same as ISO100AP.

NOTES: (1) See Typical Performance Curves for temperature effects. (2) See Theory of Operation section for definitions. For dB see Ex. 2. CM and HV errors. (3) Nonlinearity is the peak deviation from a "best fit" straight line expressed as a percent of full scale output. (4) Bipolar offset current includes effects of reference current mismatch and unipolar offset current.

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