

Hall Effect Current Sensors

3 to 25 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 2000 Vrms
- 3A - 25A with a Bipolar $\pm 15\text{VDC}$ Supply Voltage
- Low Cost



Specifications Measured at 25°C, RL=10K Ω Vcc= $\pm 15\text{V}$

Specification		L07P003D15	L07P005D15	L07P010D15	L07P015D15	L07P020D15	L07P025D15
Nominal Primary DC Current (If)		$\pm 3\text{A}$	$\pm 5\text{A}$	$\pm 10\text{A}$	$\pm 15\text{A}$	$\pm 20\text{A}$	$\pm 25\text{A}$
Maximum Current	If(max)	$\pm 9\text{A}$	$\pm 15\text{A}$	$\pm 30\text{A}$	$\pm 45\text{A}$	$\pm 60\text{A}$	$\pm 75\text{A}$
Output Voltage @ If	V _{OUT}	$+4\text{V} \pm 0.05\text{V}, -4\text{V} \pm 0.150\text{V}$ (at If)					
Offset Voltage	V _{OE}	$0 \pm 0.50\text{V}$					
Accuracy @ If ¹	X	$< \pm 1\%$ of If					
Output Linearity ¹ (O..If Max)	E _L	$\leq \pm 1\%$ (at 0A ~ If)					
Power Supply	Vcc	$\pm 15\text{V} \pm 5\%$					
Response Time	T _r	$\leq 10\mu\text{sec}$ (di/dt = 10A / 5 μsec)					
Current Consumption	Ic	$\leq 30\text{mA}$					
Output Temperature Characteristic	TCE _G	$< \pm 0.1\%$ / °C					
Offset Temperature Characteristic	V _{OT}	$\leq \pm 2\text{mV}$ / °C TYP					
Hysteresis Allowance @ If=0	V _{OH}	$\leq 30\text{mV}$ (0A = If)					
Withstand Voltage (50/60Hz)	V _d	2,000VACrms for 1 minute (Sensing Current 0.5mA)					
Insulation Resistance @ 500VDC	R _{IS}	$\geq 500\text{MW}$					
Operating Temperature	T _A	$-10 \sim +80^\circ\text{C}$					
Storage Temperature	T _S	$-20 \sim +85^\circ\text{C}$					

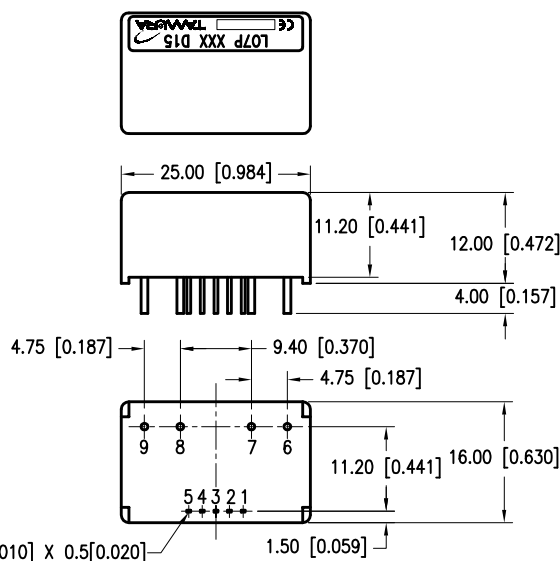
1. Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
CALL	CALL

TERMINAL	FUNCTION
1	+15V
2	-15V
3	OUT1
4	OUT2
5	GND
6	+IN1
7	-IN1
8	+IN2
9	-IN2

CURRENT	Ø PIN
3A ~ 10A	Ø 0.6[0.024]
15A ~ 20A	Ø 0.9[0.035]
25A	Ø 1.2[0.047]



5 RECTANGULAR PINS 0.25[0.010] X 0.5[0.020]

Unless otherwise specified, tolerances shall be $\pm 0.5\text{mm}$.

TAMURA CORPORATION

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Hall Effect Current Sensors

5 to 40 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 2000 Vrms
- 5A - 40A Unipolar +5VDC Supply Voltage
- Low Cost



Specifications Measured at 25°C, RL=10KΩ Vcc=+5V

Specification		L07P005S05	L07P007S05	L07P010S05	L07P015S05	L07P020S05	L07P025S05	L07P030S05	L07P040S05
Nominal Primary DC Current (If)		±5A	±7A	±10A	±15A	±20A	±25A	±30A	±40V
Maximum Current	If(max)	±6.25A	±9.375A	±12.5A	±18.75A	±25A	±31.25A	±37.5A	±50A
Output Voltage @ If	V _{OUT}	2.5V ±1.5V							
Offset Voltage	V _{OE}	V _{OUT} ± 45mV							
Accuracy @ If ¹	X	< ± 1%							
Output Linearity ¹ (O..If Max)	E _L	≤ ± 1% (at 0A ~ If)							
Power Supply	V _{cc}	+ 5V ±5%							
Response Time	T _r	≤ 5μsec (di/dt = 10A / 5μsec)							
Current Consumption	I _c	≤ 30mA							
Output Temperature Characteristic	TCE _G	< ± 2mV / °C							
Offset Temperature Characteristic	V _{OT}	≤ ± 2mV / °C MAX							
Hysteresis Allowance @ If=0	V _{OH}	≤ 15mV (0A = If)							
Withstand Voltage (50/60Hz)	V _d	2,000VACrms for 1 minute (Sensing Current 0.5mA)							
Insulation Resistance @ 500VDC	R _{IS}	≥ 500MΩ							
Operating Temperature	T _A	-25 ~ +80°C							
Storage Temperature	T _S	-25 ~ +85°C							

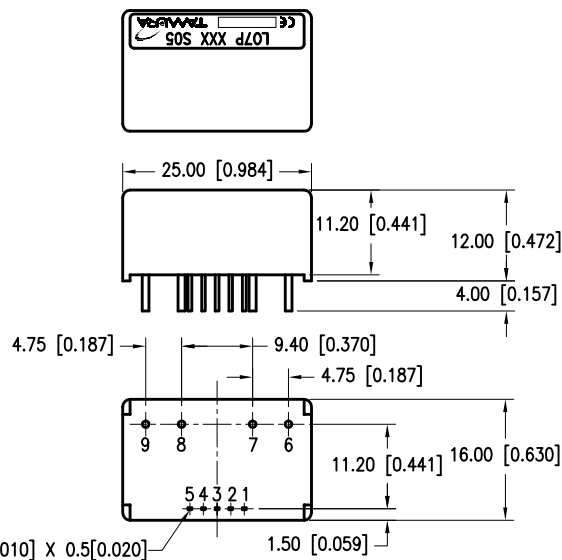
1. Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
CALL	CALL

TERMINAL	FUNCTION
1	+5V
2	NC
3	OUT1
4	OUT2
5	GND
6	+IN1
7	-IN1
8	+IN2
9	-IN2

CURRENT	Ø PIN
5A ~ 10A	Ø 0.6[0.024]
15A ~ 20A	Ø 0.9[0.035]
25A	Ø 1.2[0.047]



5 RECTANGULAR PINS 0.25[0.010] X 0.5[0.020]

Unless otherwise specified, tolerances shall be ±0.5mm.

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3 to 30 Amp Applications — Open Loop

- Compact PCB Mount Design
- Integrated Primary
- Withstanding Voltage of 3000 Vrms
- 3A - 30A with a Bipolar $\pm 15\text{VDC}$ Supply Voltage
- Low Cost

Specifications Measured at 25°C, RL-10K Ω Vcc= $\pm 15\text{V}$

Specification		L18P003D15	L18P005D15	L18P010D15	L18P015D15	L18P020D15	L18P025D15	L18P030D15
Nominal Primary DC Current (If)		$\pm 3\text{A}$	$\pm 5\text{A}$	$\pm 10\text{A}$	$\pm 15\text{A}$	$\pm 20\text{A}$	$\pm 25\text{A}$	$\pm 30\text{A}$
Maximum Current	If(max)	$\pm 9\text{A}$	$\pm 15\text{A}$	$\pm 30\text{A}$	$\pm 45\text{A}$	$\pm 60\text{A}$	$\pm 60\text{A}$	$\pm 90\text{A}$
Output Voltage @ If	V _{OUT}	$\pm 4\text{V} \pm 0.04\text{V}$ (at If)						
Offset Voltage	V _{OE}	$0 \pm 0.40\text{V}$						
Accuracy @ If ¹	X	$< \pm 1\%$ of If						
Output Linearity ¹ (O..If Max)	E _L	$\leq \pm 1\%$ MAX						
Power Supply	Vcc	$\pm 15\text{V} \pm 5\%$						
Response Time	T _r	$\leq 5\mu\text{sec}$ (di/dt = 10A / 5 μsec)						
Current Consumption	Ic	$\leq 15\text{mA}$						
Output Temperature Characteristic	TCE _G	$< \pm 0.1\%$ / °C MAX						
Offset Temperature Characteristic	V _{OT}	$\leq \pm 1.5\text{mV}$ / °C TYP						
Hysteresis Allowance @ If=0	V _{OH}	$\leq 25\text{mV}$ (0A = If)						
Withstand Voltage (50/60Hz)	V _d	3,000VACrms for 1 minute (Sensing Current 0.5mA)						
Insulation Resistance @ 500VDC	R _{IS}	$\geq 500\text{M}\Omega$						
Operating Temperature	T _A	$-10 \sim +80^\circ\text{C}$						
Storage Temperature	T _S	$-20 \sim +85^\circ\text{C}$						

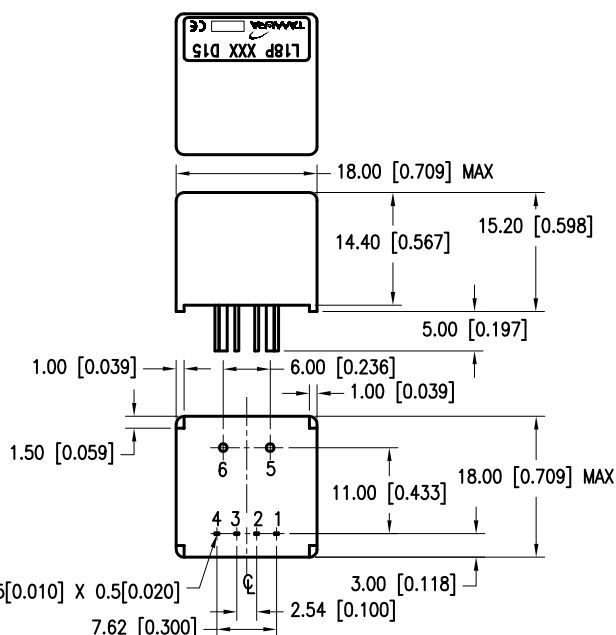
¹ Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
CALL	CALL

TERMINAL	FUNCTION
1	-V _{CC}
2	GND
3	+V _{CC}
4	OUTPUT
5	+IN
6	-IN

CURRENT	Ø PIN
3A ~ 5A	Ø 0.6[0.024]
10A ~ 15A	Ø 0.9[0.035]
20A ~ 30A	Ø 1.2[0.047]



4 RECTANGULAR PINS 0.25[0.010] X 0.5[0.020]

Unless otherwise specified, tolerances shall be $\pm 0.5\text{mm}$.

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Hall Effect Current Sensors

40 to 60 Amp Applications — Open Loop

- Compact PCB Mount Design
- Dual Integrated Primary
- Withstanding Voltage of 3000 Vrms
- 40A - 60A Bipolar ± 15 VDC Supply Voltage
- Durable Busbar Construction



Specifications Measured at 25°C, RL=10K Ω Vcc= ± 15 V

Specification		L18P040D15	L18P050D15	L18P060D15
Nominal Primary DC Current (If)		+40A	+50A	+60A
Maximum Current	If(max)	± 120 A	± 150 A	± 180 A
Output Voltage @ If	V _{OUT}		± 4.0 V ± 0.050 V	
Offset Voltage	V _{OE}		0 ± 0.050 V	
Accuracy @ If ¹	X		$< \pm 1\%$	
Output Linearity ¹ (O..If Max)	E _L		$\leq 1\%$ MAX	
Power Supply	V _{CC}		± 15 V $\pm 5\%$	
Response Time	T _r		$\leq 5\mu$ sec	
Current Consumption	I _c		≤ 15 mA	
Output Temperature Characteristic	TCE _G		$< \pm 0.1\%$ / °C MAX	
Offset Temperature Characteristic	V _{OT}		$\leq \pm 1.5$ mV / °C MAX	
Hysteresis Allowance @ If=0	V _{OH}		≤ 40 mV (0A = If)	
Withstand Voltage (50/60Hz)	V _d	3000VACrms for 1 minute (Sensing Current 0.5mA)		
Insulation Resistance @ 500VDC	R _{IS}		≥ 500 M Ω	
Operating Temperature	T _A		-10 ~ +80°C	
Storage Temperature	T _S		-20 ~ +85°C	

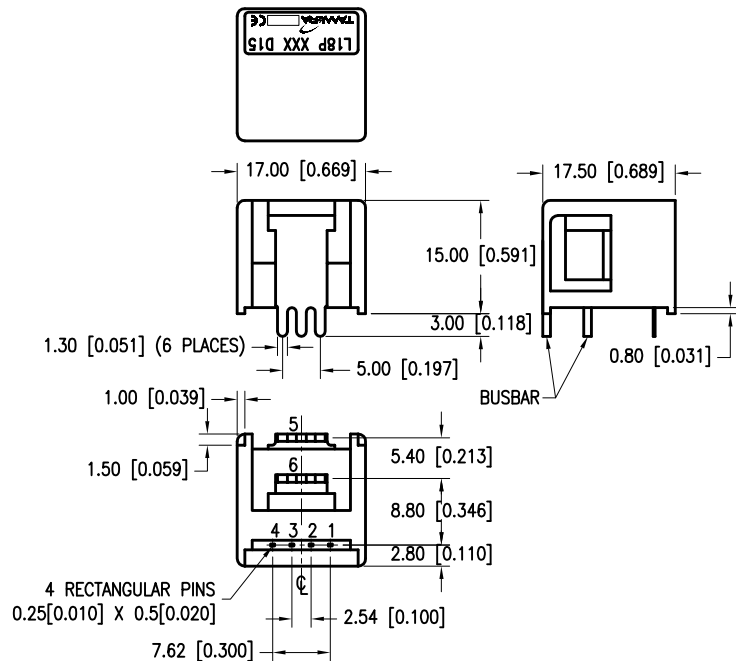
1. Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
CALL	CALL

TERMINAL	FUNCTION
1	-V _{CC}
2	GND
3	+V _{CC}
4	OUTPUT
5	+IN
6	-IN

CURRENT	Ø PIN
40A ~ 60A	BUSBAR 1.0[0.04]X6.3[2.48]



Unless otherwise specified, tolerances shall be ± 0.5 mm.

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Hall Effect Current Sensors

50 to 200 Amp Applications — Open Loop



- Compact PCB Mount Design
- Voltage Output type
- CE EN50178 (pending)

Specifications Measured at 25°C, RL=10KΩ, V_{CC}=±15V

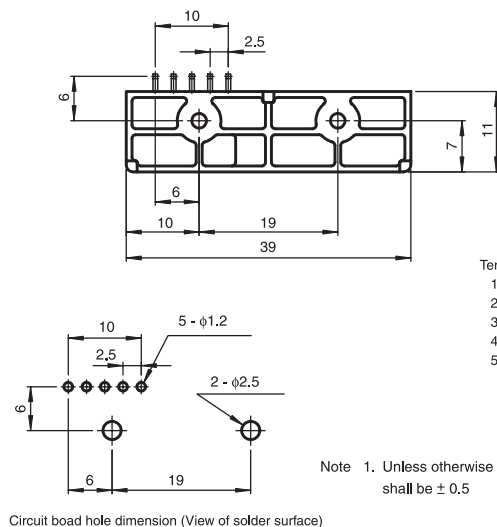
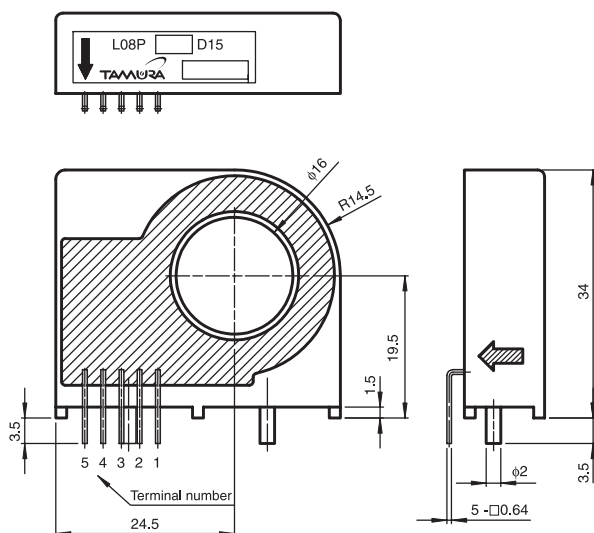
Specification		L08P050D15	L08P100D15	L08P150D15	L08P200D15
Nominal Primary DC Current	(If)	50AT	100AT	150AT	200AT
Maximum Current	If _(max)	±150AT	±300AT	±350AT	±350AT
Output Voltage @ If	V _{OUT}	4V			
Offset Voltage	V _{OE}	<±40mV			
Accuracy @ If ²	X	±1% of If			
Output Linearity ² (0..If MAX)	E _L	≤±1% of If			
Power Supply	V _{CC}	±15V±5%			
Response Time	t _r	<10µ Sec			
Current Consumption	I _C	12mA typ			
Output Temperature Characteristic	TCE _G	<±0.1% / °C	<±0.05% / °C		
Offset Temperature Characteristic	V _{OT}	<±2mV / °C	<±1mV / °C		
Hysteresis Allowance @ If=0	V _{OH}	< ±30mV	<± 20mV		
Withstand Voltage (50/60Hz)	V _d	2,500VACrms for 1 minute (Sensing Current 0.5mA)			
Insulation Resistance @ 500VDC	R _{IS}	≥500MΩ			
Operating Bandwidth ¹ (-3dB)	f	DC - 50kHz			
Operating Temperature	T _A	-10 - +80°C			
Storage Temperature	T _s	-20 - +85°C			

¹ Small signal only; derating needed to avoid excessive core heating at high frequency

² Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
50	25



Terminal number
1 +15V
2 - 15V
3 OUT
4 GND
5 NC(No connection)

Note 1. Unless otherwise specified, tolerances shall be ± 0.5

Circuit board hole dimension (View of solder surface)

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Hall Effect Current Sensors

50 to 600 Amp Applications — Open Loop

- Compact PCB Mount Design
- Voltage Output type
- Very High Linearity
- 15V Supply Voltage
- CE EN50178 (pending)



Specifications Measured at 25°C, RL=10KΩ, V_{CC}=±15V

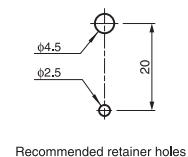
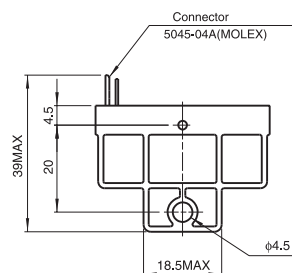
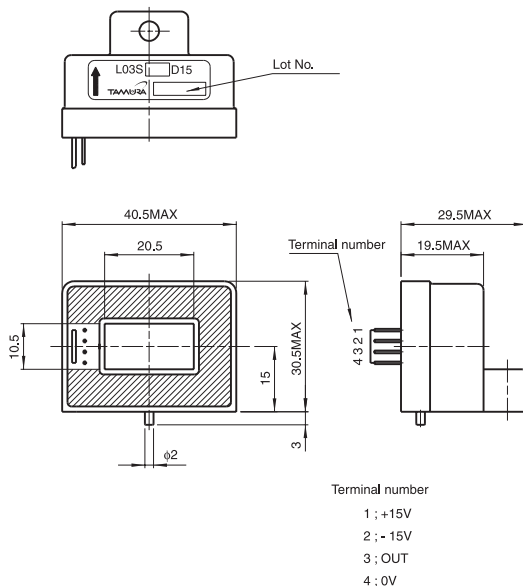
Specification		L03S050D15	L03S100D15	L03S200D15	L03S300D15	L03S400D15	L03S500D15	L03S600D15
Nominal Primary DC Current	(If)	50AT	100AT	200AT	300AT	400AT	500AT	600AT
Maximum Current	If(max)	±150AT	±300AT	±600AT	±700AT	±700AT	±700AT	±700AT
Output Voltage @ If	VOUT	4V						
Offset Voltage	VOE	<± 40mV	<±30mV					
Accuracy @ If²	X	±1% of If						
Output Linearity² (0..If MAX)	EL	±1% of If						
Power Supply	VCC	±15V±5%						
Response Time	tr	≤5μ Sec						
Current Consumption	Ic	12mA typ						
Output Temperature Characteristic	TCEG	<±0.1% / °C						
Offset Temperature Characteristic	VOt	<±2mV / °C	<±1mV / °C					
Hysteresis Allowance @ If=0	VOH	±30mV			±20mV		±10mV	
Withstand Voltage (50/60Hz)	Vd	2,500VACrms for 1 minute (sensing current 0.5mA)						
Insulation Resistance @ 500VDC	RIS	≥500MΩ						
Operating Bandwidth¹ (-3dB)	f	DC - 50kHz						
Operating Temperature	TA	-10 - +80°C						
Storage Temperature	TS	-15 - +90°C						

¹ Small signal only; derating needed to avoid excessive core heating at high frequency

² Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
20	50



Note 1. Unless otherwise specified, tolerances shall be ±0.5

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Hall Effect Current Sensors

50 to 600 Amp Applications — Open Loop



- Compact PCB Mount Design
- Voltage Output type
- Very High Linearity
- 5V Supply Voltage
- CE EN50178 (pending)

Specifications Measured at 25°C, RL=10KΩ, Vcc=+ 5V; Vref = $\frac{V_{CC}}{2}$

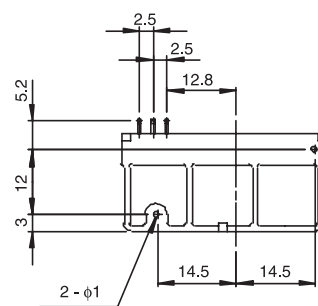
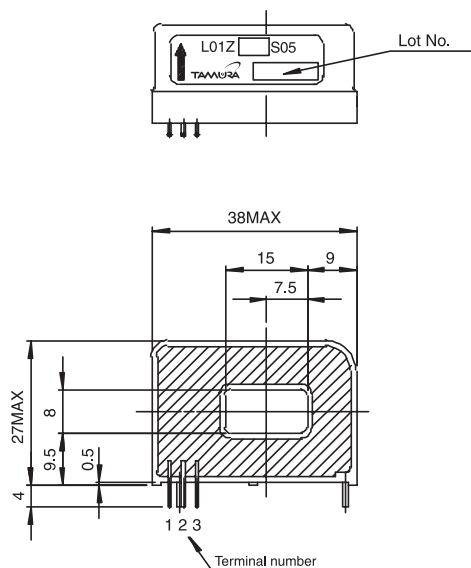
Specification		L01Z050S05	L01Z100S05	L01Z150S05	L01Z200S05	L01Z300S05	L01Z400S05	L01Z500S05	L01Z600S05
Nominal Primary DC Current (If)		50AT	100AT	150AT	200AT	300AT	400AT	500AT	600AT
Maximum Current If(max)		±62.5AT	±125AT	±187.5AT	±250AT	±375AT	±500AT	±625AT	±750AT
Output Voltage @ If	V _{OUT}	Vref±1.5V				Vref±1.5V			
Offset Voltage	V _{OE}	2.5V±0.035V				2.5V±0.030V			
Accuracy @ If ²	X	<±1% of If				<±1% of If			
Output Linearity ² (0..If MAX)	E _L				±1% of If				
Power Supply	Vcc				5V ±2.0%				
Response Time	t _r				<5μs				
Current Consumption	Ic				<15mA				
Output Temperature Characteristic	TCE _G	<±2mV / °C			<±1.5mV / °C				
Offset Temperature Characteristic	V _{OT}	<±2mV / °C			<±1mV / °C				
Hysteresis Allowance @ If=0	V _{OH}		±8mV		±4mV			±6mV	
Withstand Voltage (50/60Hz)	V _d				2,500VACrms for 1 minute (sensing current 0.5mA)				
Insulation Resistance @ 500VDC	R _{IS}				≥500MΩ				
Operating Bandwidth ¹ (-3dB)	f				DC - 50kHz				
Operating Temperature	T _A				-10 - +80°C				
Storage Temperature	T _S				-15 - +85°C				

¹ Small signal only; derating needed to avoid excessive core heating at high frequency

² Without offset

Package & Weight Information

QTY/Box	Weight/each(g)
50	45



Terminal number
1 OUT
2 OV
3 5V

Note 1. Unless otherwise specified, tolerances shall be ±0.5

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