

231D  
4 AMP

**CLASS 231**  
4 AMPS  
SPST—NO  
DC INPUTS  
AC OUTPUTS  
ZERO CROSSING



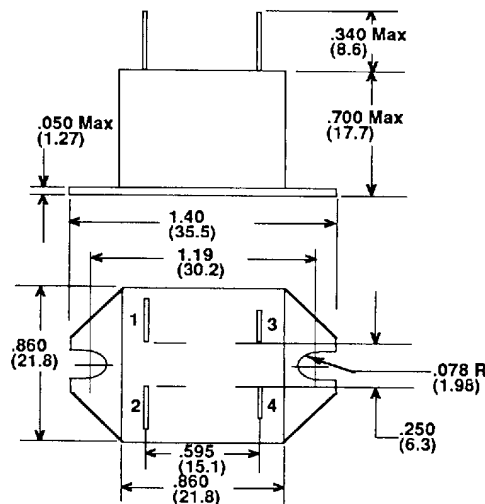
UL RECOGNIZED  
FILE NO. E52197



CSA CERTIFIED  
FILE NO. LR41729

1 AC (LOAD)  
2 AC (LOAD)  
3 + (CONTROL)  
4 - (CONTROL)

Quick disconnect terminals  
with .060 Dia. Holes  
Terminals 1 & 2, 1/4", .032 Brass  
Terminals 3 & 4, 3/16", .032 Brass



STOCK NUMBERS	FLANGE MOUNT	231D-3-5	231D-4-5	231D-3-12	231D-4-12
INPUT CHARACTERISTICS					
Input Voltage Range		5VDC	5VDC	12VDC	12VDC
Maximum Pickup Voltage (over operating temperature range)		4VDC	4VDC	9.3VDC	9.3VDC
Minimum Dropout Voltage (over operating temperature range)		2.0VDC			
Input Impedance		Input current (at nominal voltage) 13mA typical / 16mA max..			
Reverse Polarity Protected		No			
Input Filtered for transients less than one millisecond.		No			
Response Time		1/2 cycle			
OUTPUT CHARACTERISTICS					
Nominal Off State Voltage $V_D$ (RMS)		120	240	120	240
Maximum Off State Voltage $V_{D\text{MAX}}$ (RMS)		140	280	140	280
Minimum Off State Voltage $V_{D\text{MIN}}$ (RMS)		20	40	20	40
Non-Repetitive Peak Voltage $V_{DSM}$ (Blocking Voltage)		400	500	400	500
Maximum Rate of Rise of Off State Voltage dv/dt		200V/uSec.			
Rated Load Current $I_T$ (RMS)*		4.0 Amps(231D)			
U/L Incandescent Lamp Ampere Rating		—			
U/L Motor Load Ampere Rating		—			
Minimum Load Current $I_{T\text{MIN}}$ (RMS) to maintain "On"		20mA			
Non-Repetitive Surge Current $I_{T\text{SM}}$ (one Cycle Surge)		20 Amp			
Maximum RMS Overload current for 1 second		5 Amp			
Maximum Off State Leakage current $I_D$ (RMS)		1mA Max.			
Maximum RMS On-State Voltage $V_T$ (RMS) Maximum Voltage drop across relay output @ rated current		1.7V			
MISCELLANEOUS CHARACTERISTICS					
Max. $I^2T$ for fusing (8.3 m Sec)		4.5			
Thermal Resistance Junction to Case		230T= 8°c/w			
Suggested Heat Sink		TO-3 mounting 231D only			
Dielectric Strength $V_{ISO}$ (Input-Output Isolation)		2500VAC			
Insulation Resistance $R_{ISO}$ @ 500VDC		$10^{10}\Omega$			
Operating temperature Range		-30° to + 80°C			
Storage temperature Range		-40° to + 100°C			
Weight		57 oz. (16.2 g)-231D			

\*All current ratings are based on use of suitable thermally conductive compound (e.g. silicone grease between the SSR mounting base and mounting surface of suitable heat sink).