

## MOS RELAY APR SERIES



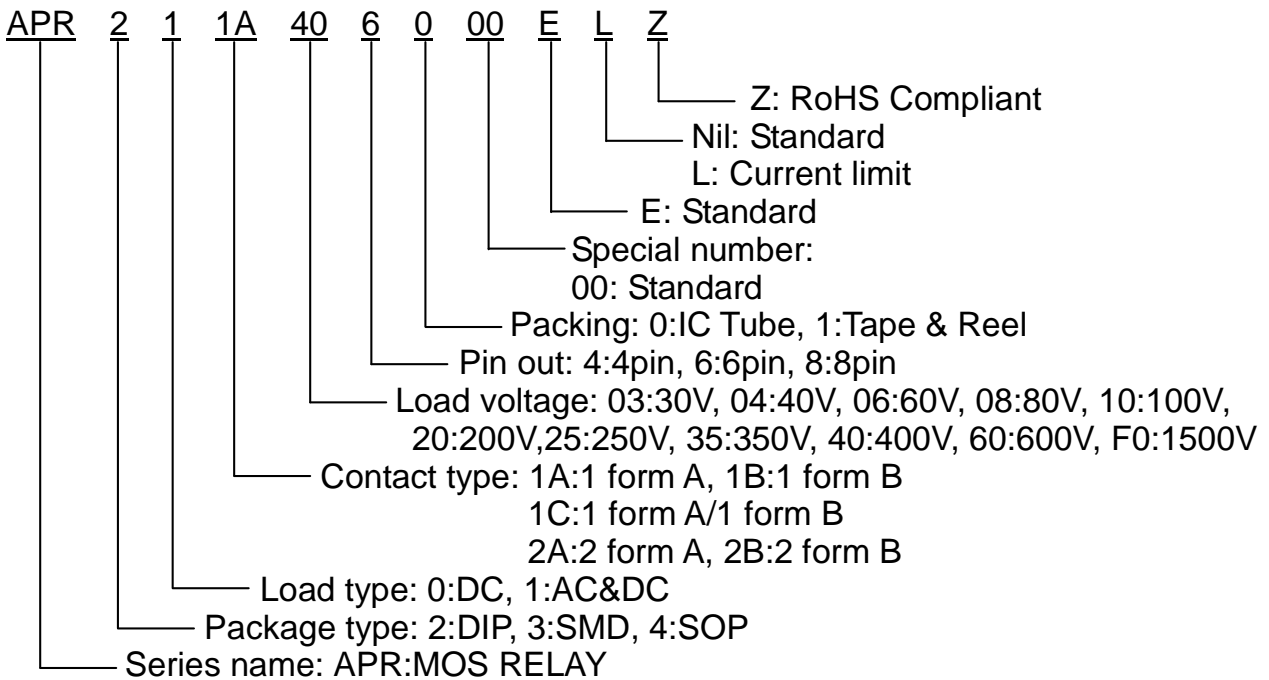
### FEATURES

- No EMI/RFI generation
- High reliability
- No moving parts
- Low drive power requirement (TTL/CMOS compatible)
- Low On-state resistance
- High isolation voltage
- Arc-free with no snubbing circuits
- Machine insertable or wave solderable

### APPLICATIONS

- Telecommunications
- Instrumentation
- Medical equipment
- Security
- Industrial control

### PART NUMBER SYSTEM



DIP TYPE



SMD TYPE



SOP TYPE

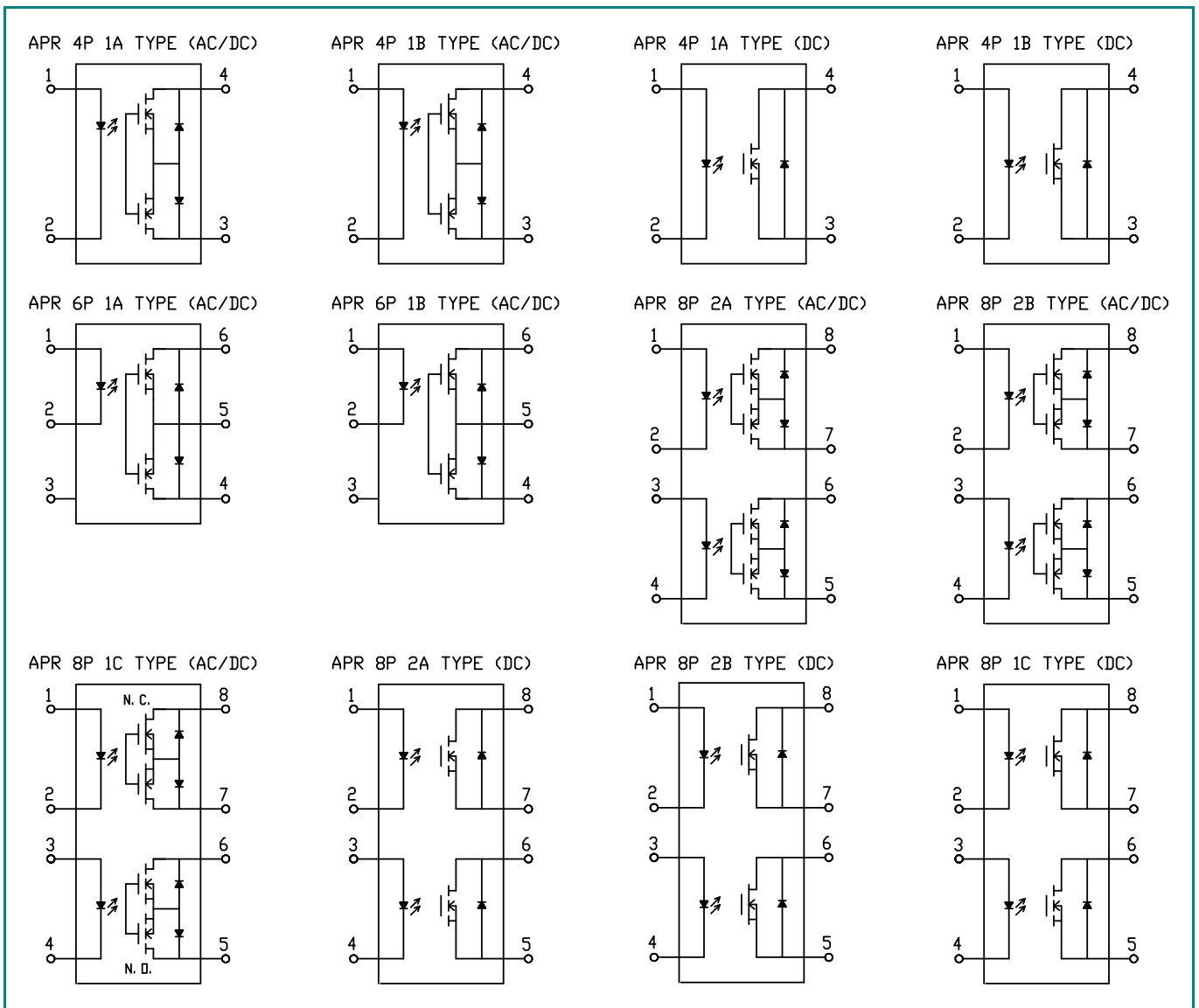


## MARKING SYSTEM

APR 6 1A 40 T X

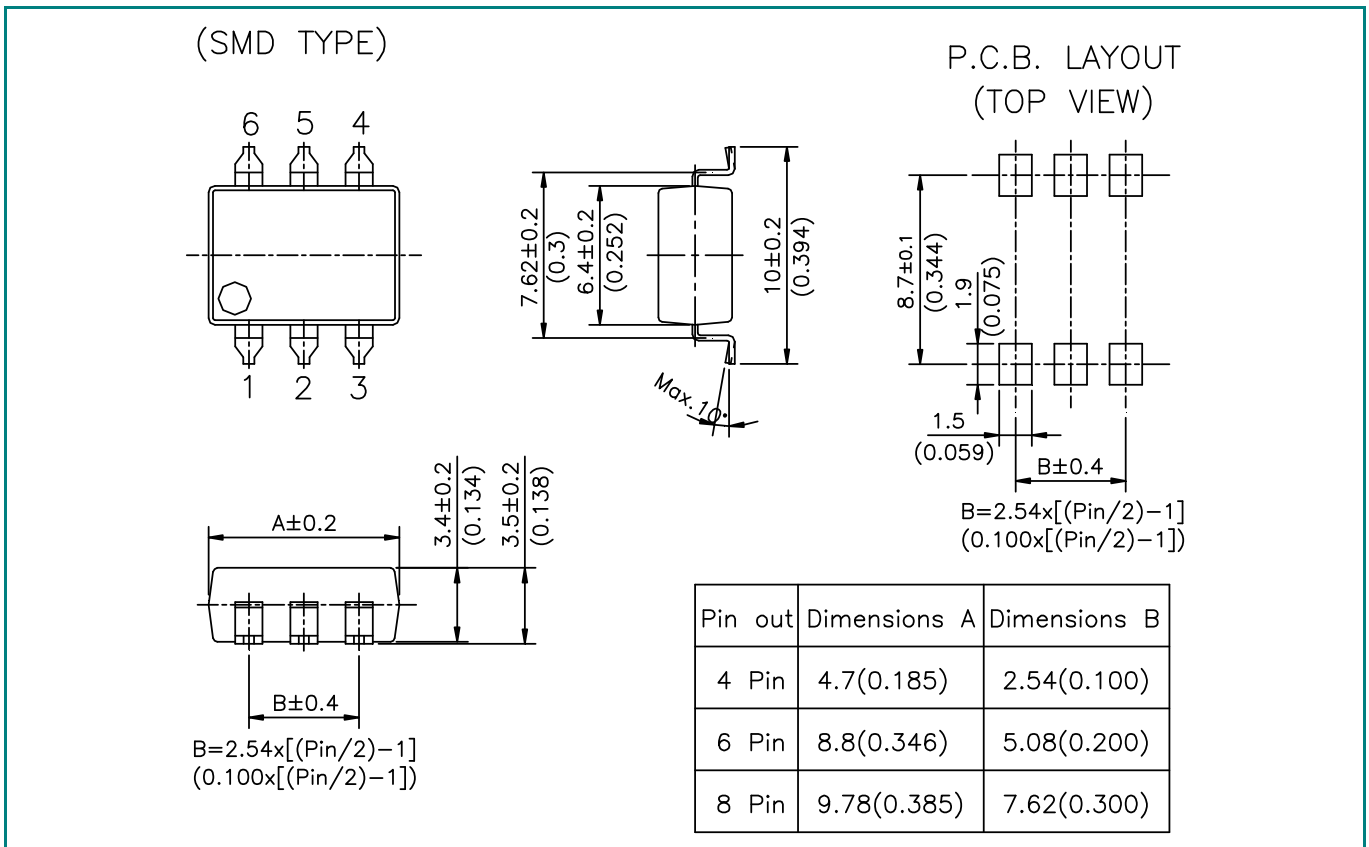
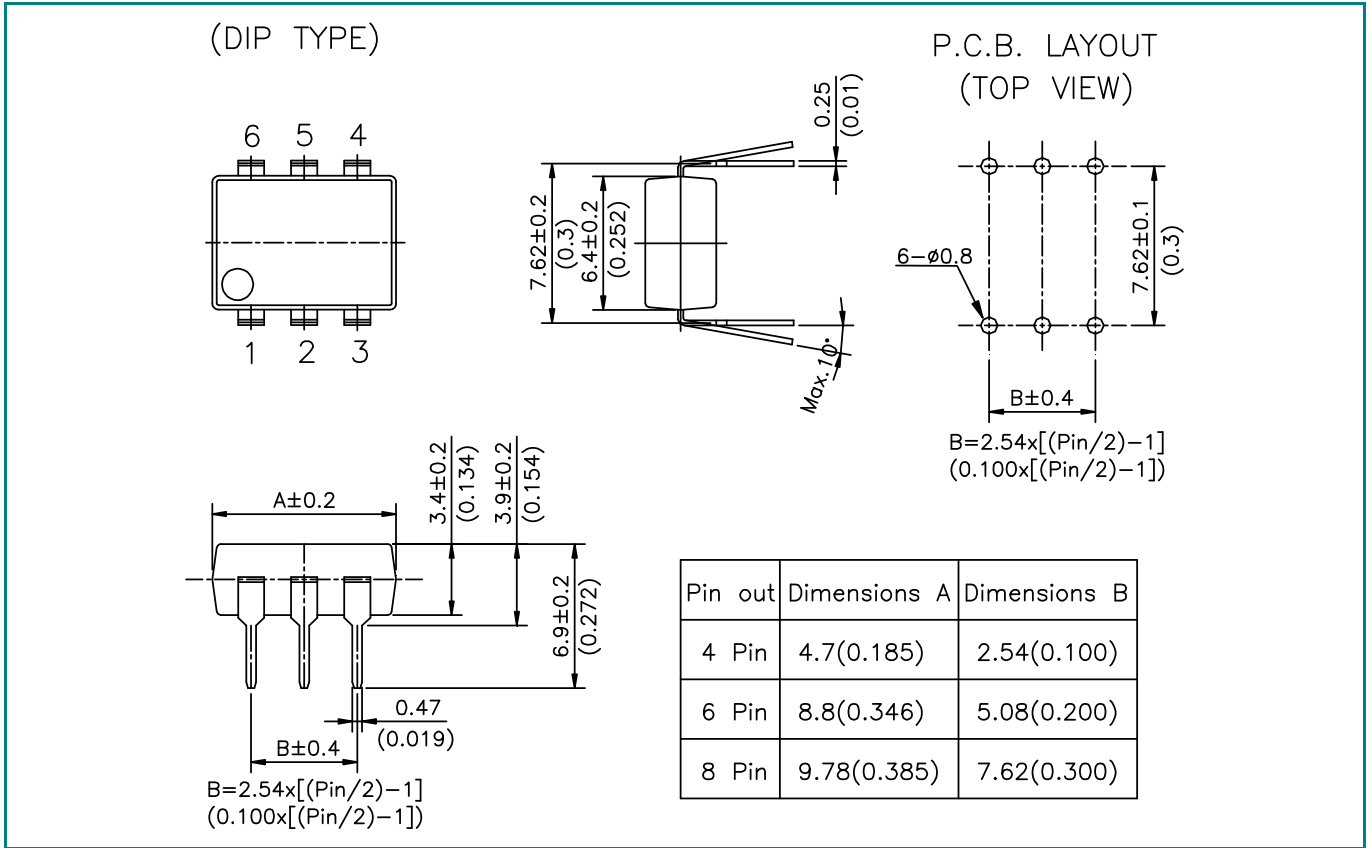
Model name: APR  
 Pin number: 4:4pin, 6:6pin, 8:8pin  
 Contact type: 1A:1 form A, 1B:1 form B, 1C:1 form A/1 form B  
 2A:2 form A, 2B:2 form B  
 Load voltage: 03:30V, 04:40V, 06:60V, 08:80V, 10:100V,  
 20:200V, 25:250V, 35:350V, 40:400V, 60:600V, F0:1500V  
 DC output & through hole  
 DC output & SMD, K:DC output & SOP  
 DC output & through hole  
 SMD type, S:SOP type  
 Packing:  
 T:Through hole, M:SMD type, S:SOP type  
 Social Number

## CIRCUIT DIAGRAM

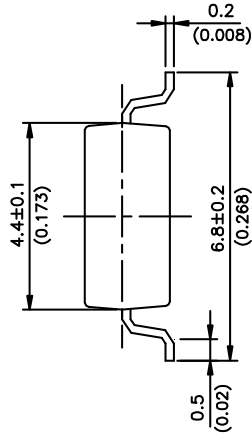
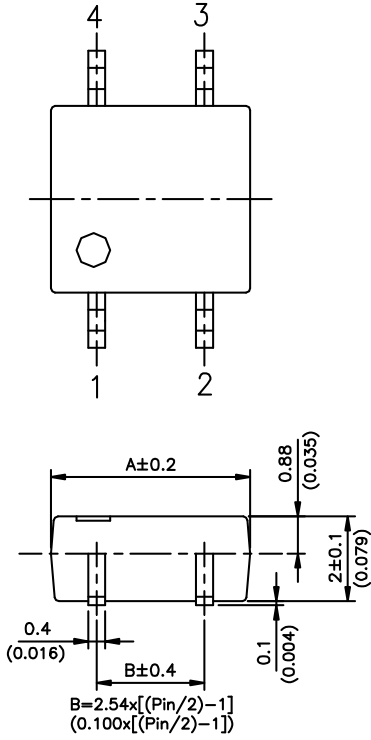




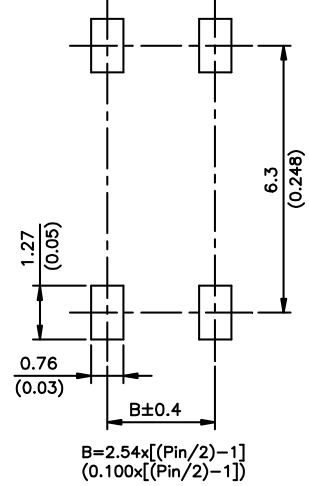
## DIMENSIONS UNIT:mm(inch)



(SOP TYPE)



P.C.B. LAYOUT  
(TOP VIEW)



Pin out	Dimensions A	Dimensions B
4 Pin	4.7(0.185)	2.54(0.100)
6 Pin	6.30(0.248)	5.08(0.200)
8 Pin	9.3(0.366)	7.62(0.300)

## ■ SPECIFICATIONS (@25 / Initial):

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A034005	211A034006	211A044005	-----	-----
			211A036005	211A036006	211A046005	211A046006	211A046007
			212A038005	212A038006	212A048005	-----	-----
	SMD	311A034X05	311A034X06	311A044X05	-----	-----	
		311A036X05	311A036X06	311A046X05	311A046X06	311A046X07	
		312A038X05	312A038X06	312A048X05	-----	-----	
	SOP	411A034X05	-----	411A044X05	-----	-----	
		411A036X05	411A036X06	411A046X05	-----	-----	
		412A038X05	-----	412A048X05	-----	-----	
Contact form	4PIN / 6PIN	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	---	---	
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5	5	5	5	5	
Control current (mA)(I <sub>F</sub> )		10-50	10-50	10-50	10-50	10-50	
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		30	30	40	40	40	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	1300	2500	1600	---	---	
	SMD/DIP	1800	3000	2000	3500	4500	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	2000	5000	2500	---	---	
	SMD/DIP	2000	5000	2500	6500	7500	
On-state resistance Max. ( ) (R <sub>ON</sub> )		0.5	0.2	0.5	0.07	0.05	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	1	1	1	1	
Turn-on (msec)(T <sub>ON</sub> )		5	5	5	5	5	
Turn-off (msec)(T <sub>OFF</sub> )		2	2	2	2	2	
Capacitance (pF)(C <sub>OUT</sub> )		300	---	---	---	---	
Current limit typ. (mA)		---	---	---	---	---	
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )		5	5	5	5	5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500	2500	2500	---	---	
	SMD/DIP	3750	3750	3750	3750	3750	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5	5	5	5	5	
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )					
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )					

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A064000 211A066000 212A068000	211A064005 211A066005 212A068005	----- 211A066006 -----	----- 211A066007 -----	211A064009 211A066009 212A068009
	SMD		311A064X00 311A066X00 312A068X00	311A064X05 311A066X05 312A068X05	----- 311A066X06 -----	----- 311A066X07 -----	311A064X09 311A066X09 312A068X09
	SOP		411A064X00 411A066X00 412A068X00	411A064X05 411A066X05 412A068X05	----- 411A066X06 -----	----- ----- -----	411A064X09 411A066X09 412A068X09
Contact form	4PIN / 6PIN		1A	1A	1A	1A	1A
	8PIN		2A	2A	---	---	2A
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5	5	5	5	5
Control current (mA)(I <sub>F</sub> )			5-50	10-50	10-50	10-50	5-50
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			60	60	60	60	60
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		500	900	1500	---	500
	SMD/DIP		550	1100	1800	2500	550
Peak current (mA)(I <sub>LPeak</sub> )	SOP		1000	1500	2500	---	1000
	SMD/DIP		1000	1500	2500	4000	1000
On-state resistance Max. ( ) (R <sub>ON</sub> )			1.4	0.7	0.3	0.2	1.4
Off-state leakage current (μA) (I <sub>LK</sub> )			1	1	1	1	1
Turn-on (msec)(T <sub>ON</sub> )			1	5	5	5	1
Turn-off (msec)(T <sub>OFF</sub> )			1	2	2	2	1
Capacitance (pF)(C <sub>OUT</sub> )			150	300	---	---	150
Current limit typ. (mA)			---	---	---	---	---
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )			5	5	5	5	5
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		2500	2500	2500	---	3000
	SMD/DIP		3750	3750	3750	3750	5000
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5	5	5	5	5
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )				
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )				

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A084000	211A084009	211A104000	211A104005	211A104009
	SMD		211A086000	211A086009	211A106000	211A106005	211A106009
			212A088000	212A088009	212A108000	212A108005	212A108009
SOP	SMD	311A084X00	311A084X09	311A104X00	311A104X05	311A104X09	
		311A086X00	311A086X09	311A106X00	311A106X05	311A106X09	
		312A088X00	312A088X09	312A108X00	312A108X05	312A108X09	
SOP	SMD	411A084X00	411A084X09	411A104X00	-----	411A104X09	
		411A086X00	411A086X09	411A106X00	411A106X05	411A106X09	
		412A088X00	412A088X09	412A108X00	-----	412A108X09	
Contact form	4PIN / 6PIN	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	2A	2A	
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5	5	5	5	5	
Control current (mA)(I <sub>F</sub> )		5-50	5-50	5-50	10-50	5-50	
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		80	80	100	100	100	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	120	120	310	1300	310	
	SMD/DIP	120	120	350	1600	350	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	250	250	900	2500	900	
	SMD/DIP	250	250	900	2500	900	
On-state resistance Max. ( ) (R <sub>ON</sub> )		12	12	5	0.25	5	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	1	1	1	1	
Turn-on (msec)(T <sub>ON</sub> )		1	1	1	5	1	
Turn-off (msec)(T <sub>OFF</sub> )		1	1	1	2	1	
Capacitance (pF)(C <sub>OUT</sub> )		25	25	---	---	---	
Current limit typ. (mA)		---	---	---	---	---	
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )		5	5	5	5	5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500	3000	2500	2500	3000	
	SMD/DIP	3750	5000	3750	3750	5000	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5	5	5	5	5	
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )					
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )					



Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A204000	211A204009	211A254000	211A254002	211A254009
	SMD		211A206000	211A206009	211A256000	211A256002	211A256009
			212A208000	212A208009	212A258000	212A258002	212A258009
SOP	SMD	311A204X00	311A204X09	311A254X00	311A254X02	311A254X09	
		311A206X00	311A206X09	311A256X00	311A256X02	311A256X09	
		312A208X00	312A208X09	312A258X00	312A258X02	312A258X09	
SOP	SMD	411A204X00	411A204X09	411A254X00	411A254X02	411A254X09	
		411A206X00	411A206X09	411A256X00	411A256X02	411A256X09	
		412A208X00	412A208X09	412A258X00	412A258X02	412A258X09	
Contact form	4PIN / 6PIN	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	2A	2A	
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5	5	5	5	5	
Control current (mA)(I <sub>F</sub> )		5-50	5-50	5-50	5-50	5-50	
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		200	200	250	250	250	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	150	150	140	140	140	
	SMD/DIP	200	200	180	200	180	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	300	300	300	300	300	
	SMD/DIP	400	400	350	350	350	
On-state resistance Max. ( ) (R <sub>ON</sub> )		10	10	10	8	10	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	1	1	1	1	
Turn-on (msec)(T <sub>ON</sub> )		1	1	1	1	1	
Turn-off (msec)(T <sub>OFF</sub> )		1	1	1	1	1	
Capacitance (pF)(C <sub>OUT</sub> )		100	100	100	---	100	
Current limit typ. (mA)		---	---	---	---	---	
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )		5	5	5	5	5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500	3000	2500	2500	3000	
	SMD/DIP	3750	5000	3750	3750	5000	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5	5	5	5	5	
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )					
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )					

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A354000 211A356000 212A358000	211A354001 211A356001 212A358001	211A354002 211A356002 212A358002	211A354009 211A356009 212A358009
	SMD		311A354X00 311A356X00 312A358X00	311A354X01 311A356X01 312A358X01	311A354X02 311A356X02 312A358X02	311A354X09 311A356X09 312A358X09
	SOP		411A354X00 411A356X00 412A358X00	411A354X01 411A356X01 412A358X01	411A354X02 411A356X02 412A358X02	411A354X09 411A356X09 412A358X09
Contact form	4PIN / 6PIN		1A	1A	1A	1A
	8PIN		2A	2A	2A	2A
Input Characteristics						
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5	5	5	5
Control current (mA)(I <sub>F</sub> )			5-50	5-50	5-50	5-50
Output Characteristics						
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			350	350	350	350
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		100	80	130	100
	SMD/DIP		130	100	170	130
Peak current (mA)(I <sub>L-Peak</sub> )	SOP		300	200	300	300
	SMD/DIP		300	250	300	300
On-state resistance Max. ( ) (R <sub>ON</sub> )			30	50	16	30
Off-state leakage current (μA) (I <sub>LK</sub> )			1	1	1	1
Turn-on (msec)(T <sub>ON</sub> )			1	1.5	1	1
Turn-off (msec)(T <sub>OFF</sub> )			1	1	1	1
Capacitance (pF)(C <sub>OUT</sub> )			100	---	200	---
Current limit typ. (mA)			---	---	---	---
Input / Output Characteristics						
I/O Capacitance (pF)(C <sub>I/O</sub> )			5	5	5	5
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		2500	2500	2500	3000
	SMD/DIP		3750	3750	3750	5000
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5	5	5	5
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )			
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )			

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A404000	211A404002	211A404009	211A604000	211A604009
	SMD		211A406000	211A406002	211A406009	211A606000	211A606009
			212A408000	212A408002	212A408009	212A608000	212A608009
SOP	SMD	311A404X00	311A404X02	311A404X09	311A604X00	311A604X09	
		311A406X00	311A406X02	311A406X09	311A606X00	311A606X09	
		312A408X00	312A408X02	312A408X09	312A608X00	312A608X09	
SOP	SMD	411A404X00	411A404X02	411A404X09	411A604X00	411A604X09	
		411A406X00	411A406X02	411A406X09	411A606X00	411A606X09	
		412A408X00	412A408X02	412A408X09	412A608X00	412A608X09	
Contact form	4PIN / 6PIN	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	2A	2A	
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5	5	5	5	5	
Control current (mA)(I <sub>F</sub> )		5-50	5-50	5-50	5-50	5-50	
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		400	400	400	600	600	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	100	120	100	50	50	
	SMD/DIP	130	150	130	70	70	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	250	300	250	100	100	
	SMD/DIP	300	300	300	120	120	
On-state resistance Max. ( ) (R <sub>ON</sub> )		30	16	30	70	70	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	1	1	1	1	
Turn-on (msec)(T <sub>ON</sub> )		1	1	1	1	1	
Turn-off (msec)(T <sub>OFF</sub> )		1	1	1	1	1	
Capacitance (pF)(C <sub>OUT</sub> )		70	---	70	100	100	
Current limit typ. (mA)		---	---	---	---	---	
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )		5	5	5	5	5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500	2500	3000	2500	3000	
	SMD/DIP	3750	3750	5000	3750	5000	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5	5	5	5	5	
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )					
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )					

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211B064000 211B066000 212B068000	211B064009 211B066009 212B068009	211B204000 211B206000 212B208000	211B204009 211B206009 212B208009
	SMD		311B064X00 311B066X00 312B068X00	311B064X09 311B066X09 312B068X09	311B204X00 311B206X00 312B208X00	311B204X09 311B206X09 312B208X09
	SOP		411B064X00 411B066X00 412B068X00	411B064X09 411B066X09 412B068X09	411B204X00 411B206X00 412B208X00	411B204X09 411B206X09 412B208X09
Contact form	4PIN / 6PIN		1B	1B	1B	1B
	8PIN		2B	2B	2B	2B
Input Characteristics						
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5	5	5	5
Control current (mA)(I <sub>F</sub> )			5-50	5-50	5-50	5-50
Output Characteristics						
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			60	60	200	200
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		500	500	80	80
	SMD/DIP		550	550	100	100
Peak current (mA)(I <sub>L-Peak</sub> )	SOP		1000	1000	200	200
	SMD/DIP		1000	1000	250	250
On-state resistance Max. ( ) (R <sub>ON</sub> )			1.4	1.4	50	50
Off-state leakage current (μA) (I <sub>LK</sub> )			10	10	10	10
Turn-on (msec)(T <sub>ON</sub> )			1	1	1	1
Turn-off (msec)(T <sub>OFF</sub> )			1	1	1	1
Capacitance (pF)(C <sub>OUT</sub> )			---	---	200	200
Current limit typ. (mA)			---	---	---	---
Input / Output Characteristics						
I/O Capacitance (pF)(C <sub>I/O</sub> )			5	5	5	5
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		2500	3000	2500	3000
	SMD/DIP		3750	5000	3750	5000
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5	5	5	5
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )			
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )			

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211B354000 211B356X00 212B358X00	211B354009 211B356X09 212B358X09	211B404000 211B406X00 212B408X00	211B404009 211B406X09 212B408X09
	SMD		311B354000 311B356X00 312B358X00	311B354009 311B356X09 312B358X09	311B404000 311B406X00 312B408X00	311B404009 311B406X09 312B408X09
	SOP		411B354000 411B356X00 412B358X00	411B354009 411B356X09 412B358X09	411B404000 411B406X00 412B408X00	411B404009 411B406X09 412B408X09
Contact form	4PIN / 6PIN		1B	1B	1B	1B
	8PIN		2B	2B	2B	2B
Input Characteristics						
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5	5	5	5
Control current (mA)(I <sub>F</sub> )			5-50	5-50	5-50	5-50
Output Characteristics						
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			350	350	400	400
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		80	80	80	80
	SMD/DIP		100	100	100	100
Peak current (mA)(I <sub>L-Peak</sub> )	SOP		200	200	200	200
	SMD/DIP		250	250	250	250
On-state resistance Max. ( ) (R <sub>ON</sub> )			50	50	50	50
Off-state leakage current (μA) (I <sub>LK</sub> )			10	10	10	10
Turn-on (msec)(T <sub>ON</sub> )			1	1	1	1
Turn-off (msec)(T <sub>OFF</sub> )			1	1	1	1
Capacitance (pF)(C <sub>OUT</sub> )			200	200	200	200
Current limit typ. (mA)			---	---	---	---
Input / Output Characteristics						
I/O Capacitance (pF)(C <sub>I/O</sub> )			5	5	5	5
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		2500	3000	2500	3000
	SMD/DIP		3750	5000	3750	5000
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5	5	5	5
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )			
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )			

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	----- ----- 211C068000		----- ----- 211C068009		----- ----- 211C208000		----- ----- 211C208009	
	SMD		----- ----- 311C068X00		----- ----- 311C068X09		----- ----- 311C208X00		----- ----- 311C208X09	
	SOP		----- ----- 411C068X00		----- ----- 411C068X09		----- ----- 411C208X00		----- ----- 411C208X09	
Contact form	4PIN / 6PIN		---		---		---		---	
	8PIN		1A	1B	1A	1B	1A	1B	1A	1B
Input Characteristics										
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5		0.9-1.5		0.9-1.5		0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5		5		5		5	
Control current (mA)(I <sub>F</sub> )			5-50		5-50		5-50		5-50	
Output Characteristics										
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			60	60	60	60	200	200	200	200
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		500	500	500	500	150	80	150	80
	SMD/DIP		550	550	550	550	200	100	200	100
Peak current (mA)(I <sub>LPeak</sub> )	SOP		1000	1000	1000	1000	300	200	300	200
	SMD/DIP		1000	1000	1000	1000	400	250	400	250
On-state resistance Max. ( ) (R <sub>ON</sub> )			1.4	1.4	1.4	1.4	10	50	10	50
Off-state leakage current (μA) (I <sub>LK</sub> )			1	10	1	10	1	10	1	10
Turn-on (msec)(T <sub>ON</sub> )			1	1	1	1	1	1	1	1
Turn-off (msec)(T <sub>OFF</sub> )			1	1	1	1	1	1	1	1
Capacitance (pF)(C <sub>OUT</sub> )			150	---	150	---	100	200	100	200
Current limit typ. (mA)			---	---	---	---	---	---	---	---
Input / Output Characteristics										
I/O Capacitance (pF)(C <sub>I/O</sub> )			5		5		5		5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		2500		3000		2500		3000	
	SMD/DIP		3750		5000		3750		5000	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5		5		5		5	
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )							
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )							

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	----- ----- 211C358000		----- ----- 211C358009		----- ----- 211C408000		----- ----- 211C408009	
	SMD		----- ----- 311C358X00		----- ----- 311C358X09		----- ----- 311C408X00		----- ----- 311C408X09	
	SOP		----- ----- 411C358X00		----- ----- 411C358X09		----- ----- 411C408X00		----- ----- 411C408X09	
Contact form	4PIN / 6PIN	---		---		---		---		
	8PIN	1A	1B	1A	1B	1A	1B	1A	1B	
Input Characteristics										
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5		0.9-1.5		0.9-1.5		0.9-1.5		
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5		5		5		5		
Control current (mA)(I <sub>F</sub> )		5-50		5-50		5-50		5-50		
Output Characteristics										
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		350	350	350	350	400	400	400	400	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	100	80	100	80	100	80	100	80	
	SMD/DIP	130	100	130	100	130	100	130	100	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	300	200	300	200	250	250	250	250	
	SMD/DIP	300	250	300	250	300	250	300	250	
On-state resistance Max. ( ) (R <sub>ON</sub> )		30	50	30	50	30	50	30	50	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	10	1	10	1	10	1	10	
Turn-on (msec)(T <sub>ON</sub> )		1	1	1	1	1	1	1	1	
Turn-off (msec)(T <sub>OFF</sub> )		1	1	1	1	1	1	1	1	
Capacitance (pF)(C <sub>OUT</sub> )		---	200	---	200	70	150	70	150	
Current limit typ. (mA)		---	---	---	---	---	---	---	---	
Input / Output Characteristics										
I/O Capacitance (pF)(C <sub>I/O</sub> )		5		5		5		5		
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500		3000		2500		3000		
	SMD/DIP	3750		5000		3750		5000		
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5		5		5		5		
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )								
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )								

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	211A354000L	211A354001L	211A354002L	211A404000L	211A404002L
	SMD		211A356000L	211A356001L	211A356002L	211A406000L	211A406002L
			212A358000L	212A358001L	212A358002L	212A408000L	212A408002L
SOP	SMD	311A354X00L	311A354X01L	311A354X02L	311A404X00L	311A404X02L	
		311A356X00L	311A356X01L	311A356X02L	311A406X00L	311A406X02L	
		312A358X00L	312A358X01L	312A358X02L	312A408X00L	312A408X02L	
SOP	SMD	411A354X00L	411A354X01L	411A354X02L	411A404X00L	411A404X02L	
		411A356X00L	411A356X01L	411A356X02L	411A406X00L	411A406X02L	
		412A358X00L	412A358X01L	412A358X02L	412A408X00L	412A408X02L	
Contact form	4PIN / 6PIN	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	2A	2A	
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )		0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	0.9-1.5	
Reverse voltage at 10μA (V)(V <sub>R</sub> )		5	5	5	5	5	
Control current (mA)(I <sub>F</sub> )		5-50	5-50	5-50	5-50	5-50	
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )		350	350	350	400	400	
Continuous rated load current (mA)(I <sub>L</sub> )	SOP	100	80	120	100	100	
	SMD/DIP	120	100	120	120	120	
Peak current (mA)(I <sub>L-Peak</sub> )	SOP	120	120	120	120	120	
	SMD/DIP	120	120	120	120	120	
On-state resistance Max. ( ) (R <sub>ON</sub> )		35	55	22	40	22	
Off-state leakage current (μA) (I <sub>LK</sub> )		1	1	1	1	1	
Turn-on (msec)(T <sub>ON</sub> )		3	3	3	3	3	
Turn-off (msec)(T <sub>OFF</sub> )		1	1	1	1	1	
Capacitance (pF)(C <sub>OUT</sub> )		---	---	---	70	---	
Current limit typ. (mA)		180	180	180	180	180	
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )		5	5	5	5	5	
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP	2500	2500	2500	2500	2500	
	SMD/DIP	3750	3750	3750	3750	3750	
I/O Isolation resistance (G ) (R <sub>I/O</sub> )		5	5	5	5	5	
Temperature limits	Operating (T <sub>OP</sub> )	-40 to +85 (-40 to +185 )					
	Storage (T <sub>STG</sub> )	-40 to +100 (-40 to +212 )					



Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	APR	----- 211AC06000 -----	----- 211AF06000 -----			
	SMD		311AC06X00 -----	311AF06X00 -----			
	SOP		----- ----- -----	----- ----- -----			
Contact form	4PIN / 6PIN		1A	1A			
	8PIN		---	---			
Input Characteristics							
Forward voltage (V)(V <sub>F</sub> )			0.9-1.5	0.9-1.5			
Reverse voltage at 10μA (V)(V <sub>R</sub> )			5	5			
Control current (mA)(I <sub>F</sub> )			5-50	5-50			
Output Characteristics							
Load voltage (V)(AC peak or DC)(V <sub>L</sub> )			1200	1500			
Continuous rated load current (mA)(I <sub>L</sub> )	SOP		---	---			
	SMD/DIP		45	30			
Peak current (mA)(I <sub>L-Peak</sub> )	SOP		---	---			
	SMD/DIP		100	100			
On-state resistance Max. ( ) (R <sub>ON</sub> )			220	220			
Off-state leakage current (μA) (I <sub>LK</sub> )			1	1			
Turn-on (msec)(T <sub>ON</sub> )			1.5	1.5			
Turn-off (msec)(T <sub>OFF</sub> )			1	1			
Capacitance (pF)(C <sub>OUT</sub> )			---	---			
Current limit typ. (mA)			---	---			
Input / Output Characteristics							
I/O Capacitance (pF)(C <sub>I/O</sub> )			5	5			
I/O Isolation voltage (VAC)(V <sub>I/O</sub> )	SOP		---	---			
	SMD/DIP		3750	3750			
I/O Isolation resistance (G ) (R <sub>I/O</sub> )			5	5			
Temperature limits	Operating (T <sub>OP</sub> )		-40 to +85 (-40 to +185 )				
	Storage (T <sub>STG</sub> )		-40 to +100 (-40 to +212 )				

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