

MOS RELAY EPR SERIES



DIP TYPE



SMD TYPE



SOP TYPE



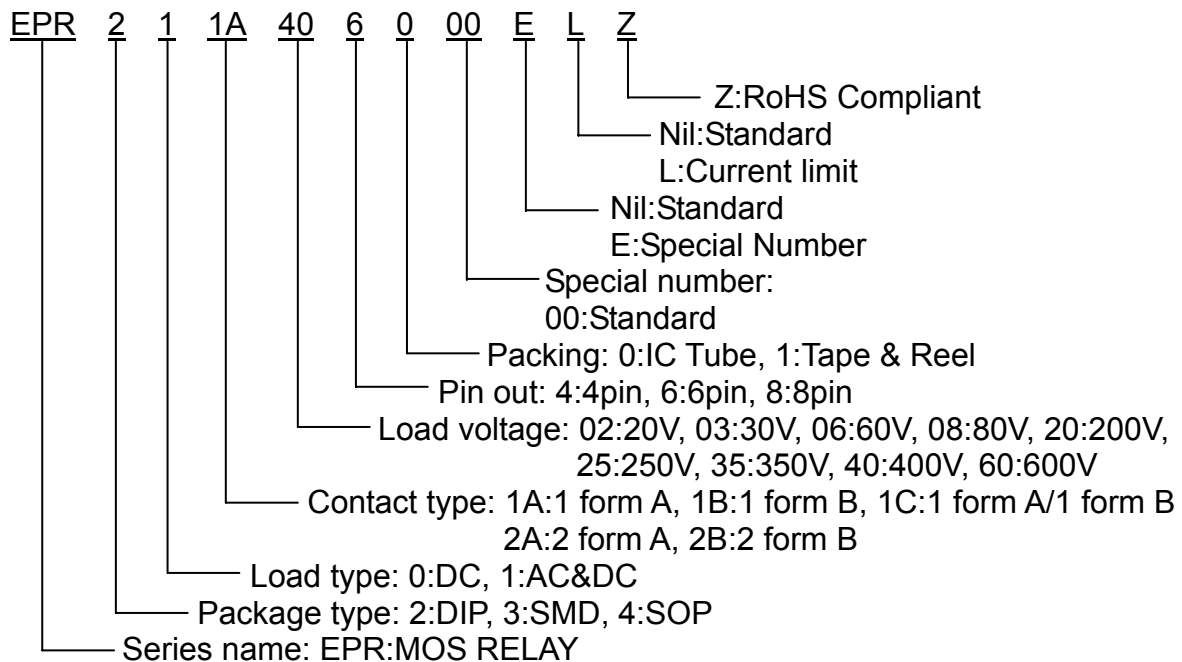
■ FEATURES

- 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

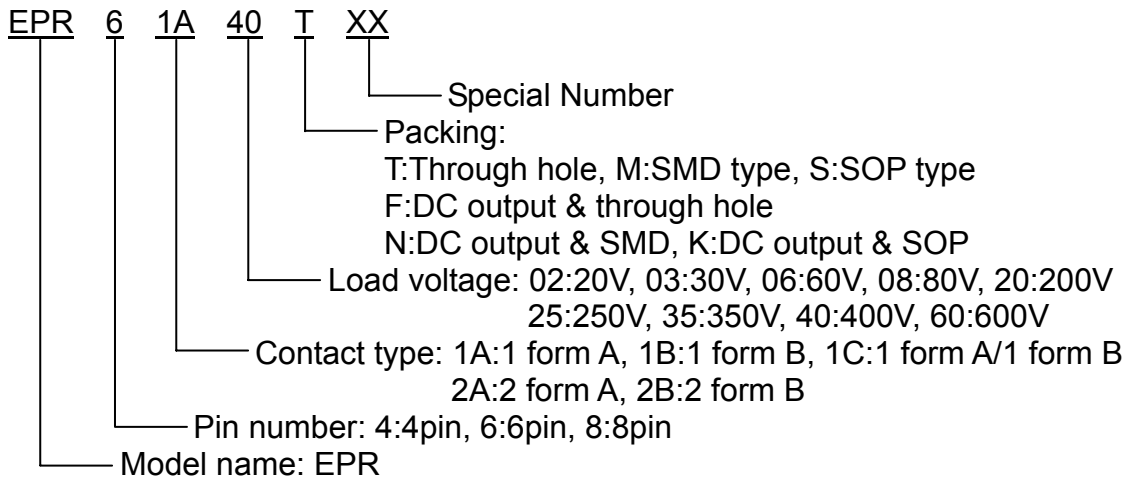
- Telecommunications
- Instrumentation
- Medical equipment
- Security
- Industrial control

■ PART NUMBER SYSTEM

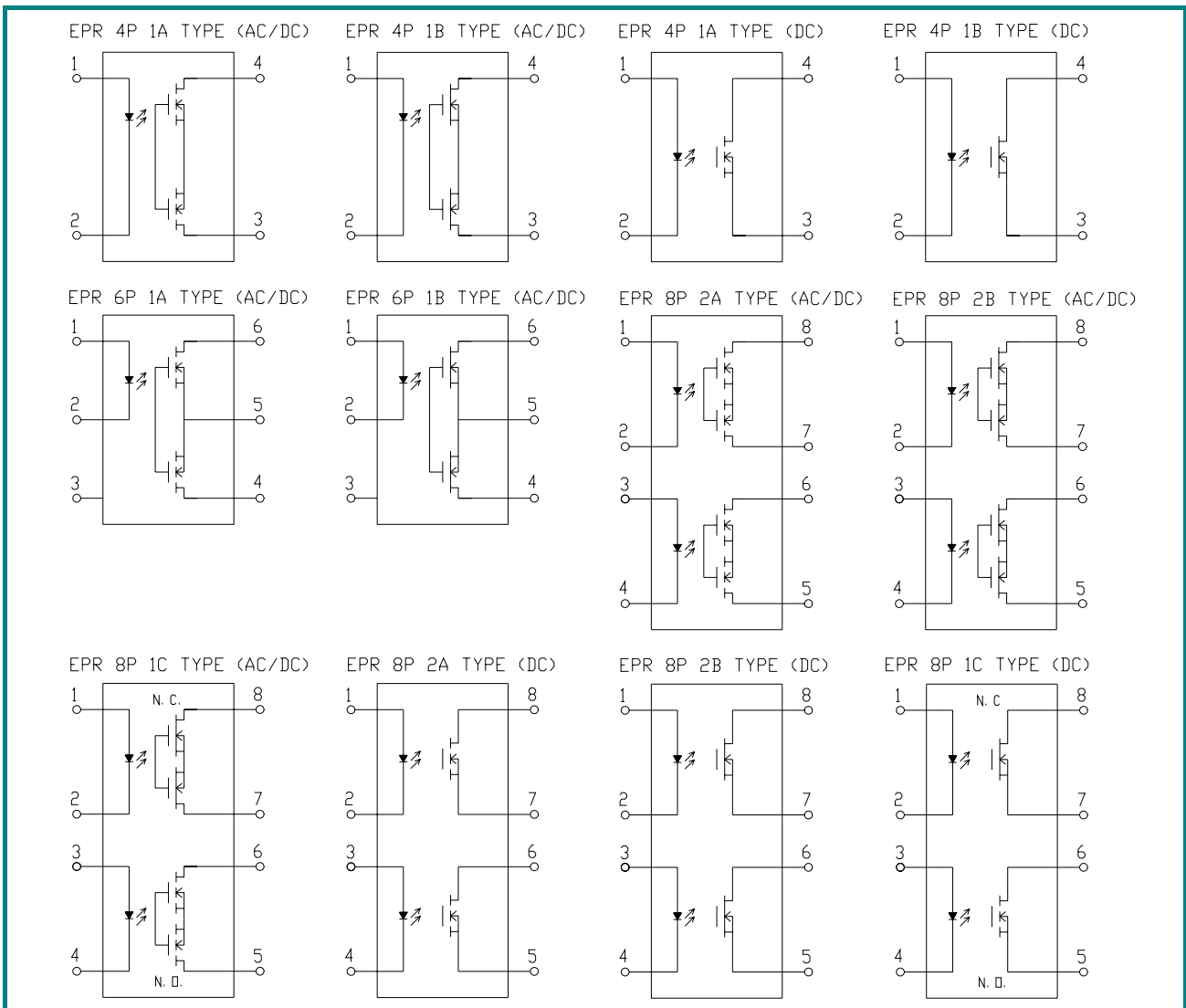




MARKING SYSTEM

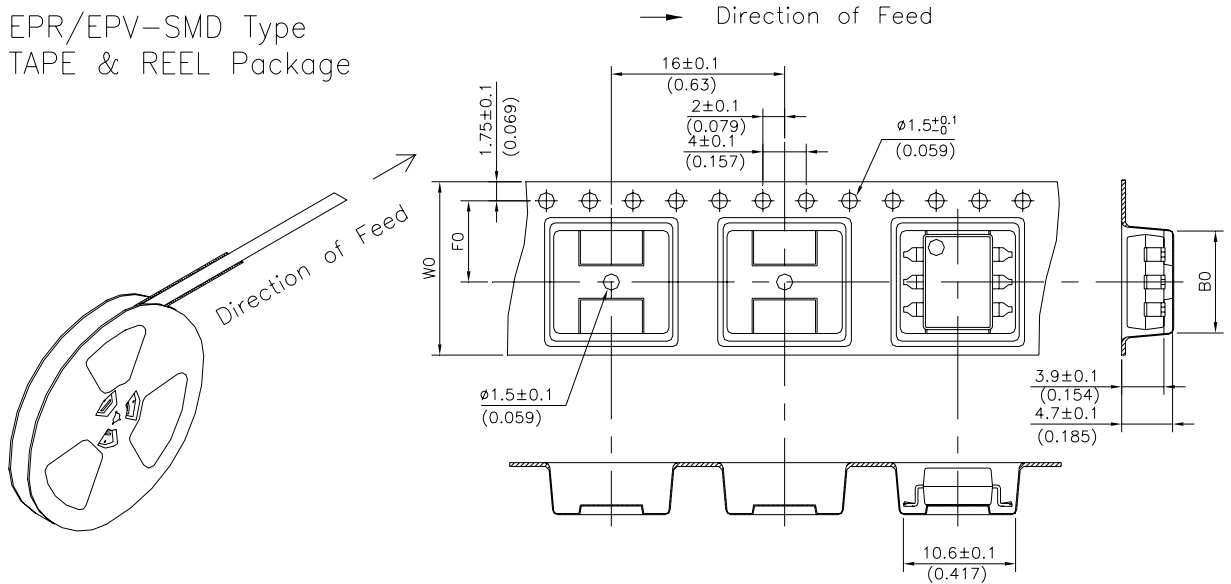


CIRCUIT DIAGRAM



OPTIONS

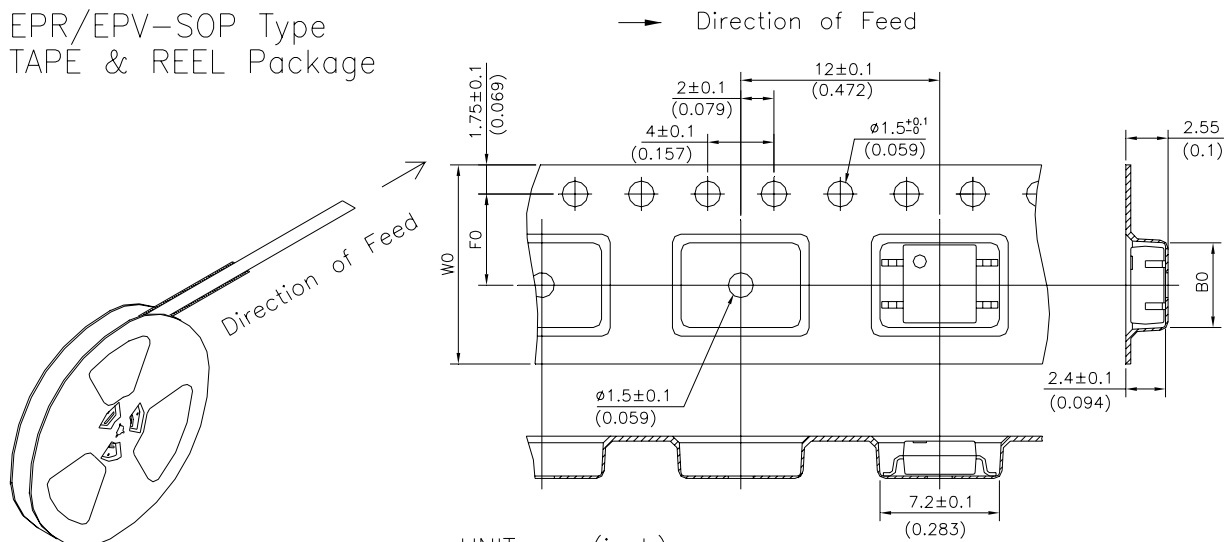
EPR/EPV-SMD Type
 TAPE & REEL Package



UNIT: mm(inch)

TYPE	B0±0.1	F0±0.1	W0±0.3	15"REEL/PCS
4P	5.3(0.209)	7.5(0.295)	16(0.630)	1000
6P	9.4(0.370)	7.5(0.295)	16(0.630)	1000
8P	10.3(0.406)	11.5(0.453)	24(0.945)	1000

EPR/EPV-SOP Type
 TAPE & REEL Package



UNIT: mm(inch)

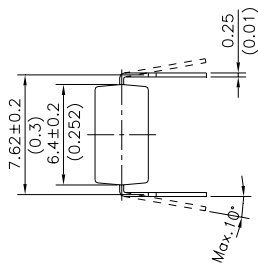
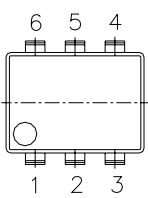
TYPE	B0±0.1	F0±0.1	W0±0.3	13"REEL/PCS
4P	5.1(0.200)	5.5(0.217)	12(0.472)	2000
6P	6.7(0.264)	7.5(0.295)	16(0.630)	2000
8P	9.6(0.378)	7.5(0.295)	16(0.630)	2000



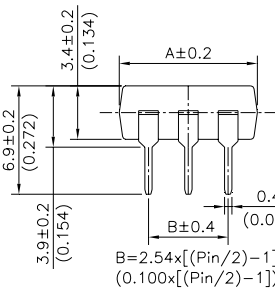
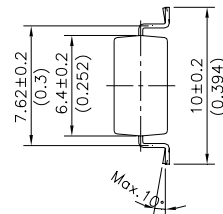
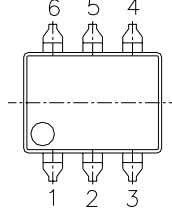
DIMENSIONS

DIMENSIONS Unit:mm(inch)
 EPR/EPV-DIP/SMD SERIES

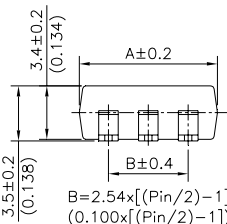
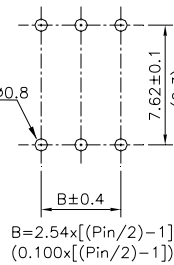
(DIP TYPE)



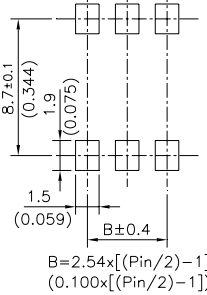
(SMD TYPE)



P.C.B. LAYOUT
 (TOP VIEW)

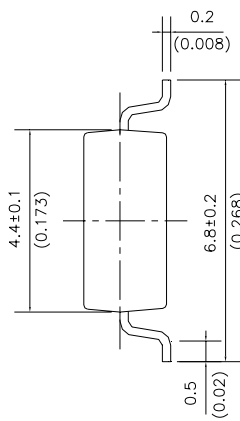
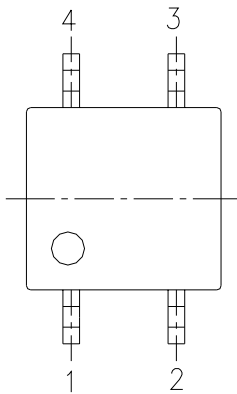


P.C.B. LAYOUT
 (TOP VIEW)

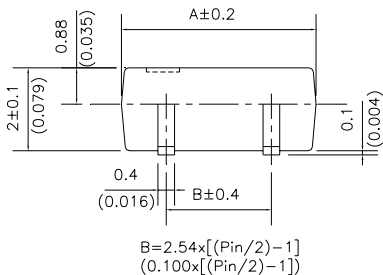
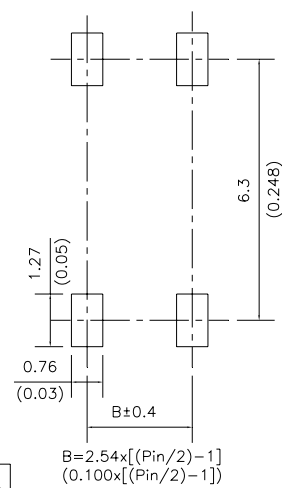


Pin out	Dimensions A
4 Pin	4.7(0.185)
6 Pin	8.8(0.346)
8 Pin	9.78(0.385)
Pin out	Dimensions B
4 Pin	2.54(0.100)
6 Pin	5.08(0.200)
8 Pin	7.62(0.300)

DIMENSIONS Unit:mm(inch)
 EPR/EPV-SOP SERIES



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°C):

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	EPR	211A024005	211A034005	211A064	211A064001	211A064002	211A064005
			211A026005	211A036005	211A066	211A066001	211A066002	211A066005
			211A028005	211A038005	211A068	211A068001	211A068002	211A068005
	SMD		311A024X05	311A034X05	311A064	311A064X01	311A064X02	311A064X05
		311A026X05	311A036X05	311A066	311A066X01	311A066X02	311A066X05	
		311A028X05	311A038X05	311A068	311A068X01	311A068X02	311A068X05	
SOP		411A024X05	411A034X05	411A064	411A064X01	411A064X02	-----	
		411A026X05	411A036X05	411A066	411A066X01	411A066X02	411A066X05	
		411A028X05	411A038X05	411A068	411A068X01	411A068X02	-----	
Contact form	4PIN / 6IN		1A	1A	1A	1A	1A	1A
	8PIN		2A	2A	2A	2A	2A	2A
Input Characteristics								
Forward voltage (V)(V _F)			0.9-1.5	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 _R)			5	5	5	5	5	5
Control current (mA)(I _F)			10-50	10-50	5-50	5-50	5-50	10-50
Output Characteristics								
Load voltage (V)(AC peak or DC)(V _L)			20	30	60	60	60	60
Continuous rated load current (mA)(I _L)	SOP		1500	1300	350	120	120	900
	SMD/DIP		2000	1800	400	120	120	1100
Peak current (mA)(I _{L-Peak})	SOP		2500	2000	600	250	250	1500
	SMD/DIP		2500	2000	700	250	250	1500
On-state resistance Max. (Ω)(R _{ON})			0.5	0.5	1.4	16	8	0.7
Off-state leakage current (μA) (I _{LK})			1	1	1	1	1	1
Turn-on (msec)(T _{ON})			5	5	1	1.5	1.5	5
Turn-off (msec)(T _{OFF})			2	2	1	1	1	2
Capacitance (pF)(C _{OUT})			400	300	150	25	25	300
Input / Output Characteristics								
I/O Capacitance (pF)(C _{I/O})			5	5	5	5	5	5
I/O Isolation voltage (VAC)(V _{I/O})	SOP	Special number 00:1500 / 09:2500						
	SMD/DIP	Special number 00:3750 / 05:2500 / 09:5000						
I/O Isolation resistance (GΩ)(R _{I/O})			5	5	5	5	5	5
Temperature limits	Operating (T _{OP})	-40°C to +85°C (-40°F to +185°F)						
	Storage (T _{STG})	-40°C to +100°C (-40°F to +212°F)						



Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	EPR	211A084	211A204	211A256	211A254002	211A354	211A354001	211A354002
			211A086	211A206	211A254	211A256002	211A356	211A356001	211A356002
			211A088	211A208	211A258	211A258002	211A358	211A358001	211A358002
	SMD		311A084	311A204	311A254	311A254X02	311A354	311A354X01	311A354X02
			311A086	311A206	311A256	311A256X02	311A356	311A356X01	311A356X02
			311A088	311A208	311A258	311A258X02	311A358	311A358X01	311A358X02
	SOP		411A084	411A206	411A254	411A254X02	411A354	411A354X01	411A354X02
			411A086	411A204	411A256	411A256X02	411A356	411A356X01	411A356X02
			411A088	411A208	411A258	411A258X02	411A358	411A358X01	411A358X02
Contact form	4PIN / 6IN	1A	1A	1A	1A	1A	1A	1A	
	8PIN	2A	2A	2A	2A	2A	2A	2A	
Input Characteristics									
Forward voltage (V)(V _F)		0.9-1.5	0.9-1.5	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 _R)		5	5	5	5	5	5	5	
Control current (mA)(I _F)		5-50	5-50	5-50	5-50	5-50	5-50	5-50	
Output Characteristics									
Load voltage (V)(AC peak or DC)(V _L)		80	200	250	250	350	350	350	
Continuous rated load current (mA)(I _L)	SOP	120	150	140	140	100	80	130	
	SMD/DIP	120	200	180	200	130	100	170	
Peak current (mA)(I _{L-Peak})	SOP	250	300	300	300	300	200	300	
	SMD/DIP	250	400	350	350	300	250	300	
On-state resistance Max. (Ω)(R _{ON})		12	10	10	8	30	50	16	
Off-state leakage current (μA) (I _{LK})		1	1	1	1	1	1	1	
Turn-on (msec)(T _{ON})		1	1	1	1	1	1.5	1	
Turn-off (msec)(T _{OFF})		1	1	1	1	1	1	1	
Capacitance (pF)(C _{OUT})		25	100	100	---	---	---	200	
Input / Output Characteristics									
I/O Capacitance (pF)(C _{I/O})		5	5	5	5	5	5	5	
I/O Isolation voltage (VAC)(V _{I/O})	SOP	Special number 00:1500 / 09:2500							
	SMD/DIP	Special number 00:3750 / 09:5000							
I/O Isolation resistance (GΩ)(R _{I/O})		5	5	5	5	5	5	5	
Temperature limits	Operating (T _{OP})	-40°C to +85°C (-40°F to +185°F)							
	Storage (T _{STG})	-40°C to +100°C (-40°F to +212°F)							



Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	EPR	211A404	211A404002	211A604	211B064	211B204	211B354	211B404
			211A406	211A406002	211A606	211B066	211B206	211B356	211B406
			211A408	211A408002	211A608	211B068	211B208	211B358	211B408
	SMD		311A404	311A404X02	311A604	311B064	311B204	311B354	311B404
			311A406	311A406X02	311A606	311B066	311B206	311B356	311B406
			311A408	311A408X02	311A608	311B068	311B208	311B358	311B408
	SOP		411A404	411A404X02	411A604	411B064	411B204	411B354	411B404
			411A406	411A406X02	411A606	411B066	411B206	411B356	411B406
			411A408	411A408X02	411A608	411B068	411B208	411B358	411B408
Contact form	4PIN / 6IN	1A	1A	1A	1B	1B	1B	1B	
	8PIN	2A	2A	2A	2B	2B	2B	2B	
Input Characteristics									
Forward voltage (V)(V _F)		0.9-1.5	0.9-1.5	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 _R)		5	5	5	5	5	5	5	
Control current (mA)(I _F)		5-50	5-50	5-50	5-50	5-50	5-50	5-50	
Output Characteristics									
Load voltage (V)(AC peak or DC)(V _L)		400	400	600	60	200	350	400	
Continuous rated load current (mA)(I _L)	SOP	100	120	50	100	80	80	80	
	SMD/DIP	130	150	70	100	100	100	100	
Peak current (mA)(I _{L-Peak})	SOP	250	300	100	250	200	200	200	
	SMD/DIP	300	300	120	300	250	250	250	
On-state resistance Max. (Ω)(R _{ON})		30	16	60	6	30	50	50	
Off-state leakage current (μA) (I _{LK})		1	1	1	10	10	10	10	
Turn-on (msec)(T _{ON})		1	1	1	1	1	1	1	
Turn-off (msec)(T _{OFF})		1	1	1	1	1	1	1	
Capacitance (pF)(C _{OUT})		70	---	100	---	200	200	200	
Input / Output Characteristics									
I/O Capacitance (pF)(C _{I/O})		5	5	5	5	5	5	5	
I/O Isolation voltage (VAC)(V _{I/O})	SOP	Special number 00:1500 / 09:2500							
	SMD/DIP	Special number 00:3750 / 09:5000							
I/O Isolation resistance (GΩ)(R _{I/O})		5	5	5	5	5	5	5	
Temperature limits	Operating (T _{OP})	-40°C to +85°C (-40°F to +185°F)							
	Storage (T _{STG})	-40°C to +100°C (-40°F to +212°F)							

Part Number (8 PIN)	DIP	EPR	211C068		211C208		211C358		211C408	
	SMD		311C068		311C208		311C358		311C408	
	SOP		411C068		411C208		411C358		411C408	
Contact form (8PIN)			1A	1B	1A	1B	1A	1B	1A	1B
Input Characteristics										
Forward voltage (V)(V _F)			0.9-1.5	0.9-1.5	0.9-1.5	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 _R)			5	5	5	5	5	5	5	5
Control current (mA)(I _F)			5-50	5-50	5-50	5-50	5-50	5-50	5-50	5-50
Output Characteristics										
Load voltage (V)(AC peak or DC)(V _L)			60	60	200	200	350	350	400	400
Continuous rated load current (mA)(I _L)	SOP		350	100	150	80	100	80	100	80
	SMD/DIP		400	100	200	100	130	100	130	100
Peak current (mA)(I _{L-Peak})	SOP		600	250	300	200	300	200	250	250
	SMD/DIP		700	300	400	250	300	250	300	250
On-state resistance Max. (Ω)(R _{ON})			1.4	6	10	30	30	50	30	50
Off-state leakage current (μA) (I _{LK})			1	10	1	10	1	10	1	10
Turn-on (msec)(T _{ON})			1	1	1	1	1	1	1	1
Turn-off (msec)(T _{OFF})			1	1	1	1	1	1	1	1
Capacitance (pF)(C _{OUT})			150	---	100	200	---	200	70	150
Input / Output Characteristics										
I/O Capacitance (pF)(C _{I/O})			5	5	5	5	5	5	5	5
I/O Isolation voltage (VAC)(V _{I/O})	SOP		Special number 00:1500 / 09:2500							
	SMD/DIP		Special number 00:3750 / 09:5000							
I/O Isolation resistance (GΩ)(R _{I/O})			5	5	5	5	5	5	5	5
Temperature limits	Operating (T _{OP})		-40°C to +85°C (-40°F to +185°F)							
	Storage (T _{STG})		-40°C to +100°C (-40°F to +212°F)							



✧Current limit

Part Number (4 PIN) (6 PIN) (8 PIN)	DIP	EPR	211A354000 311A354X00 411A354X00	211A354001 311A354X01 411A354X01	211A354002 311A354X02 411A354X02	211A404000 311A404X00 411A404X00	211A404002 311A404X02 411A404X02
	SMD		211A356000 311A356X00 411A356X00	211A356001 311A356X01 411A356X01	211A356002 311A356X02 411A356X02	211A406000 311A406X00 411A406X00	211A406002 311A406X02 411A406X02
	SOP		211A358000 311A358X00 411A358X00	211A358001 311A358X01 411A358X01	211A358002 311A358X02 411A358X02	211A408000 311A408X00 411A408X00	211A408002 311A408X02 411A408X02
Contact form	4PIN / 6IN		1A	1A	1A	1A	1A
	8PIN		2A	2A	2A	2A	2A
Input Characteristics							
Forward voltage (V)(V _F)			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 _R)			5	5	5	5	5
Control current (mA)(I _F)			5-50	5-50	5-50	5-50	5-50
Output Characteristics							
Load voltage (V)(AC peak or DC)(V _L)			350	350	350	400	400
Continuous rated load current (mA)(I _L)	SOP		100	80	120	100	100
	SMD/DIP		120	100	120	120	120
Peak current (mA)(I _{L-Peak})	SOP		120	120	120	120	120
	SMD/DIP		120	120	120	120	120
On-state resistance Max. (Ω)(R _{ON})			35	55	22	40	22
Off-state leakage current (μA) (I _{LK})			1	1	1	1	1
Turn-on (msec)(T _{ON})			3	3	3	3	3
Turn-off (msec)(T _{OFF})			1	1	1	1	1
Capacitance (pF)(C _{OUT})			---	---	---	70	---
Current limit typ. (mA)			180	180	180	180	180
Input / Output Characteristics							
I/O Capacitance (pF)(C _{I/O})			5	5	5	5	5
I/O Isolation voltage (VAC)(V _{I/O})	SOP	Special number 00:1500 / 09:2500					
	SMD/DIP	Special number 00:3750 / 09:5000					
I/O Isolation resistance (GΩ)(R _{I/O})			5	5	5	5	5
Temperature limits	Operating (T _{OP})	-40°C to +85°C (-40°F to +185°F)					
	Storage (T _{STG})	-40°C to +100°C (-40°F to +212°F)					