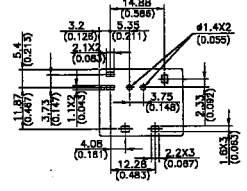
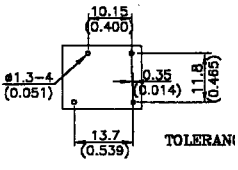
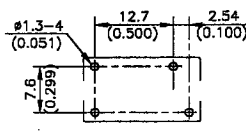
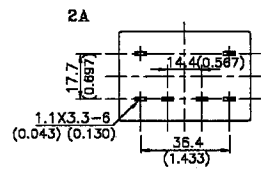
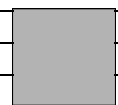
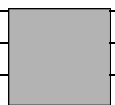
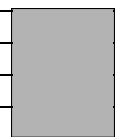
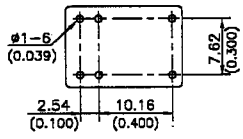
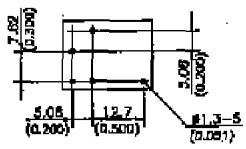
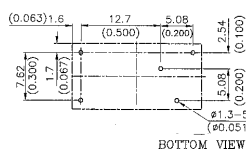
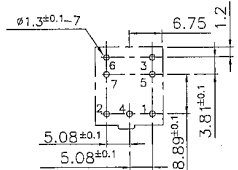
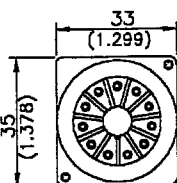
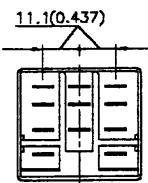
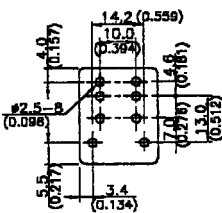
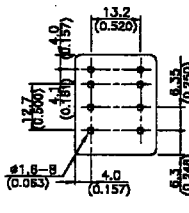


7 RELAYS

TYPE		822U/E	834	835	841
Photo					
	Description				
Size (LxWxH) mm Not including terminals		26.6X21.4X21.5	19X15.8X10.8	18.8X10.6X15.6	51.5X34.9X36
Contact Configuration		1FORM A to 1 FORM C	1 FORM A	1 FORM A	1 FORM A to 2 FORM A
Max. Allowable Contact Currant (A)	40				
	35				
	30				
	25				
	20				
	15				
	12				
	10				
	5				
	3				
Contact Ratings Resistive load		40A 14VDC (SPNO Only) 30A 14VDC (SPNC Only) SPDT-NO:40A 14VDC SPDT-NC:20A 14VDC	12A 125VAC 10A 277VAC/30VDC 1/4 HP 125VAC/250VAC TV-5	12A 125VAC 10A 277VAC/30VDC TV-5	30A 277VAC TV-10 125VAC 1 1/2HP 125VAC 3HP 277VAC 25A 277VAC TV-10 125VAC 1HP 125VAC 2 HP 277VAC
Insulation System			UL Class B	UL Class B	
Coil Voltage	DC	6-24VDC	3-24VDC	3-24VDC	3-200VDC
	AC				6-240VAC
Coil Operating Power at nominal voltage	DC	1.2W/1.6W	0.45W	0.45W	1.92W
	AC				1.7/2.7VA
Expected mechanical life (Min.)		1X10 ⁷	1X10 ⁷	1X10 ⁷	5X10 ⁶
Expected electrical life (Min.)		1X10 ⁵	1X10 ⁵	1X10 ⁵	1X10 ⁵
Dielectric Strength AC Voltage - 1 minute					
between open contact		500V	1000V	1000V	200V
between contact and coil		500V	2500V	2500V	4000V
between contact circuits					2000V
Terminal Layout (mm) Bottom view (PCB Layout)					
Terminal type		PCB	PCB	PCB	QC/PGB
Safety Approval			UL CSA TUV	UL CSA TUV	UL CUR TUV
File No.			E88991 LR90143 R9552452	E74321 L90143 R9552647	E88991 E88991 R9653713

TYPE		842/842A		843		851		861/861T	
Photo	Description								
Size (LxWxH) mm Not including terminals		15.7X10.9X12.0		22.3X17.3X15		20.5X10.5X20.5		17.5X15X19.5 17.5X29X19.5	
Contact Configuration		1 FORM A to 1 FORM C		1 FORM A,B & C		1 FORM A, B or C		1 FORM A, B & C to 2 FORM A, B & C	
Max.Allowable Contact Currant (A)	40								
	35								
	30								
	25								
	20								
	15								
	12								
	10								
	5								
	3								
Contact Ratings Resistive load		3A 120VAC/28VDC		10A 120VAC/24VDC 5A 240VAC		7A 250VAC 10A 120VAC		15A 14VDC (1A) 10Ax2 14VDC (2A)	
Insulation System									
Coil Voltage	DC	3-24VDC		3-24VDC		3-60VDC		6-24VDC	
	AC								
Coil Operating Power at nominal voltage	DC	0.2W		0.45W		0.36W		1.1W	
	AC								
Expected mechanical life (Min.)		1X10 ⁷		2X10 ⁷		1X10 ⁷		1X10 ⁷	
Expected electrical life (Min.)		1X10 ⁵		1X10 ⁵		1X10 ⁵		1X10 ⁵	
Dielectric Strength AC Voltage - 1 minute									
between open contact		500V		750V		1000V		500V	
between contact and coil		500V/1000V		2000V		2-3000V		500V	
between contact circuits									
Terminal Layout (mm) Bottom view (PCB Layout)									
Terminal type		PCB		PCB		PCB		PCB	
Safety Approval		UL CUR		UL & CUR		UL & CUR TUV			
File No.		E74321 E74321		E74321		E88991 Pending			

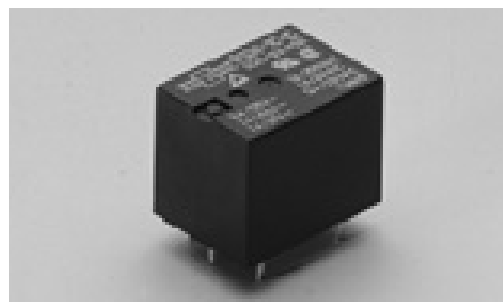
7 RELAYS

		703	735	SCL	SCLB/D				
Photo									
	Description	CE		CE	CE				
Size (LxWxH) mm Not including terminals		35X33X54.5	38X35X47.6	27.5X21.5X35.2	27.5X21.5X36				
Contact Configuration		1 FORM C to 3 FORM C	1 FORM C to 3 FORM C	2FORM A to 2 FORM C	2 FORM C to 4 FORM C				
Max. Allowable Contact Currant (A)	40								
	35								
	30								
	25								
	20								
	15								
	12								
	10								
	5								
	3								
Contact Ratings Resistive load		10A 250VAC/28VDC 1/6 HP 120VAC 1/3 HP 240VAC	25A 277VAC/28VDC 10A 600VAC 1 1/2 HP 250VAC 1 HP 120VAC	10A 277VAC/28VDC 1/2 HP 250VAC 1/3 HP 125VAC 15A 240VAC (DPNO)	5A 250VAC/28VDC				
Insulation System									
Coil Voltage	DC	6-110VDC	6-110VDC	6-110VDC	6-110VDC				
	AC	6-240VAC	6-240VAC	6-240VAC	6-240VAC				
Coil Operating Power	DC	1.2W	1.2/1.5W	0.9W	0.9W				
at nominal voltage	AC	2.0VA	3.0/3.4VA	1.2VA	1.2VA				
Expected mechanical life (Min.)		1X10 ⁷	1X10 ⁷	1X10 ⁷	1X10 ⁷				
Expected electrical life (Min.)		1X10 ⁵	1X10 ⁵	1X10 ⁵	1X10 ⁵				
Dielectric Strength ACVoltage - 1 minute									
between open contact		1000V	1000V	1000V	1000V				
between contact and coil		1500V	1600V	1500V	1500V				
between contact circuits		1500V	1600V	1500V	1500V				
Terminal Layout (mm) Bottom view (PCB Layout)									
Terminal type		Octal Plug-in	QC/PCB	QC/Plug-in/PCB	QC/Plug-in/PCB				
Safety Approval		UL	CSA	UL	CSA	TUV	UL	CSA	TUV
File No.		E88991	LR90143	E88991	LR90143	L9452079	E74321	LR90143	L9452080

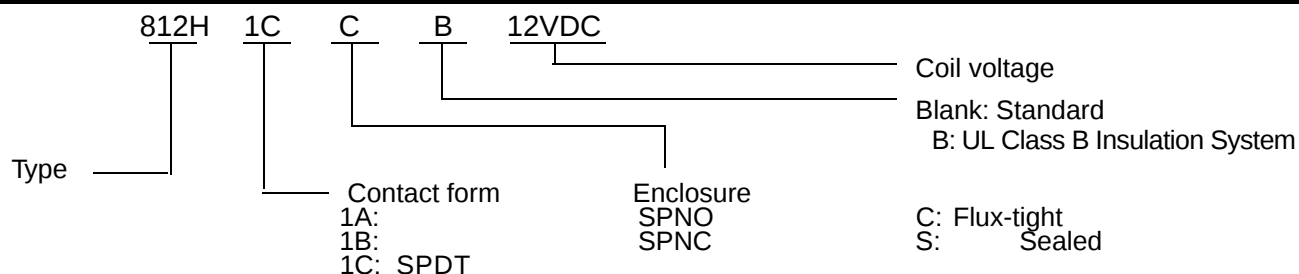
812H

FEATURES

- Sub-Miniature, 7-12 amps
- UL, CSA , & TUV
- UL Class B Insulation System optional
- TV-5, SPNO
- Flux-tight or Sealed
- Versatile, high performance, small package



ORDERING INFORMATION



SAFETY APPROVAL

Certified	UL	CSA	TUV
File No.	E88991	LR90143	R9452021

SAFETY APPROVAL RATING

	UL	CSA	TUV
	12A 125VAC	12A 125VAC	7A 250V~(AC)
	7A 277VAC/30VDC	7A 250VAC/30VDC	10A 125V~(AC)
	1/4 HP, 125/250VAC (N.O.)		7A 30V =(DC)
	1/8 HP, 125/250VAC (N.C.)		
	TV-5 (1A)		

COIL DATA (DC)

Rated voltage (V)	Rated current $\pm 10\%$ at 25° (mA)	Coil resistance $\pm 10\%$ at 25° (W)	Max. continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
3	120	25				
4	90	44				
5	73	69				
6	60	100				
9	40	225				
12	30	400				
18	20	900				
24	15	1600				
48	7.5	6400				
			110% of rated voltage	75% of rated voltage	10% of rated voltage	approx. 0.36W

812H

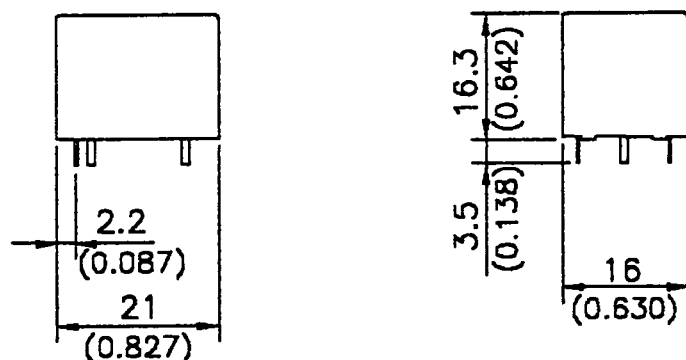
7

R E L A Y S

SPECIFICATION

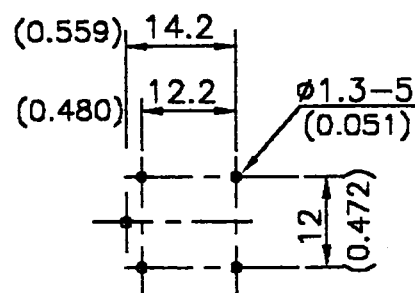
Contact resistance	50mW Max. (initial value)	
Operate time	10ms	
Release time	5ms	
Insulation resistance	100M W Min. (DC 500V)	
Dielectric strength	Between open contact	AC 750V, 50/60Hz 1 min.
	Between contact and coil	AC 1500V, 50/60Hz 1 min.
Vibration resistance	Operating extremes	10~50Hz, amplitude 1.0mm
	Damage limits	>10~50Hz, amplitude 1.0mm
Shock resistance	Operating extremes	>10G
	Damage limits	>100G
Life expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,200 operations/hr)
Operating temperature	-40°~ +70°C (no freezing)	
Weight	Approx. 10g	

OUTLINE DIMENSIONS



TOLERANCE: $\pm 0.3(0.012)$

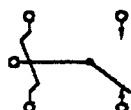
PC BOARD LAYOUT



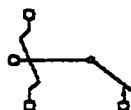
BOTTOM VIEW

WIRING DIAGRAM

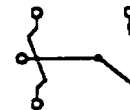
1C



1B



1A

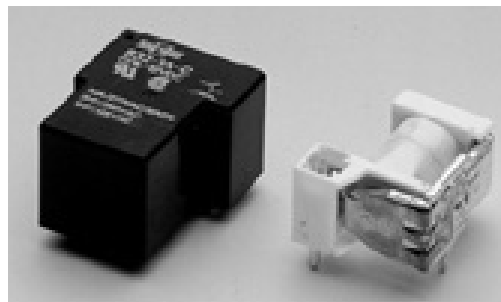


BOTTOM VIEW

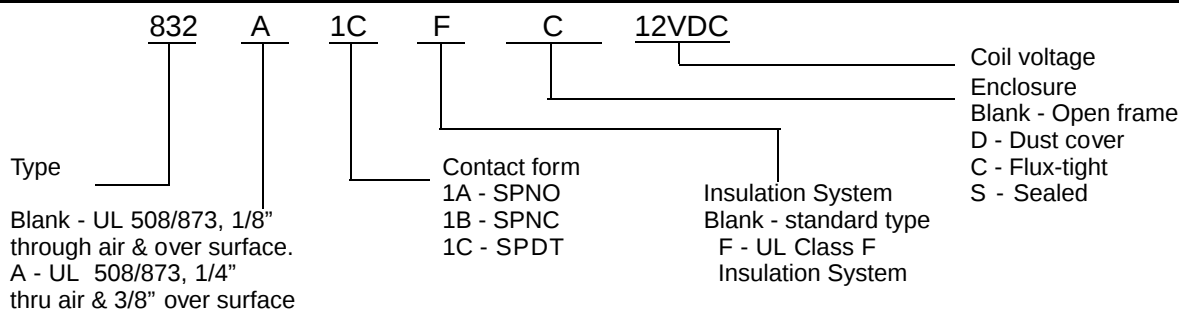
832/832A

FEATURES

- Miniature, 20-30 amps
- UL, CSA & VDE
- UL Class F Insulation System optional
- UL 508/ UL873 spacing, 1/4" through air and 3/8" over surface
- Special 1.9 mm contact gap optional - SPNO
- Open-frame, dust cover, flux-tight or sealed



ORDERING INFORMATION



SAFETY APPROVAL

Certified	UL	CSA	VDE
File No.	E88991	LR90143	6615üG

SAFETY APPROVAL RATING (UL, CSA, VDE)

	1A	1B	NO 1C NC	1A	1C
	30A 277VAC 20A 30VDC 2 HP, 250VAC 1 HP, 125VAC TV-5	15A 277VAC 15A 30VDC 1/2 HP, 250VAC 1/4 HP, 125VAC	20A 277VAC 10A 277VAC 20A 30VDC 10A 30VDC 2 HP, 250VAC 1/2 HP, 250VAC 1 HP, 125VAC 1/4 HP, 125VAC TV-5	30A 250~(AC)	20A 250~(AC)

COIL DATA (DC)

Rated voltage (V)	Rated current ± 10 % at 25° (mA)	Coil resistance ± 10 % at 25° (Ω)	Max.continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
5	185	27				
6	150	40				
9	93	97				
12	77	155				
24	36	660				
48	18	2560				
110	8	13450	110% of rated voltage	75% of rated voltage	10% of rated voltage	approx. 0.93W

832/832A

7

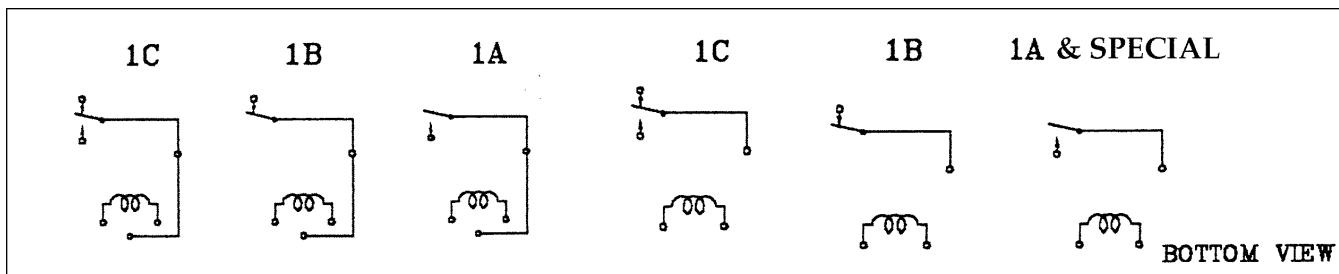
R E L A Y S

SPECIFICATION

Contact resistance	50mWMax. (initial value)	
Operate time	15ms Max.	
Release time	10ms Max.	
Insulation resistance	100M WMin. (DC 500V)	
Dielectric strength	Between open contact	1500V ms, 50/60Hz 1 min.
	Between contact and coil	832: 1500Vrms 50/60Hz 1 min.
		832A: 2500Vrms 50/60Hz 1 min.
		832A High dielectric strength type: 4000Vrms 50/60Hz 1 min.
Vibration resistance	Operating extremes	10~50Hz, amplitude 1.5mm
	Damage limits	>10~50Hz, amplitude 1.5mm
Shock resistance	Operating extremes	>10G
	Damage limits	>20G
Life expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,200 operations/hr)
Operating temperature	-55° ~ 85° C (no freezing)	
Weight	Approx. 22g (open type), 27g (with cover)	

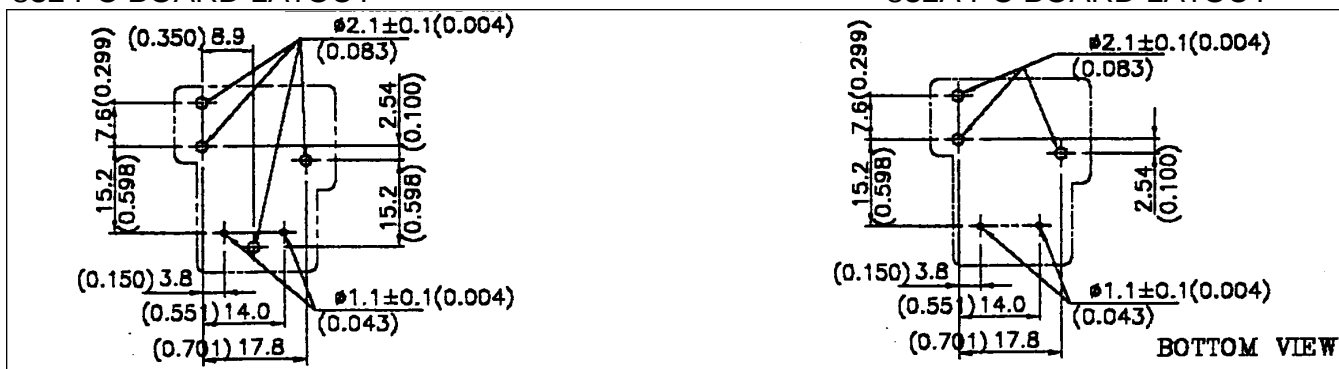
832 WIRING DIAGRAM

832A WIRING DIAGRAM



832 PC BOARD LAYOUT

832A PC BOARD LAYOUT



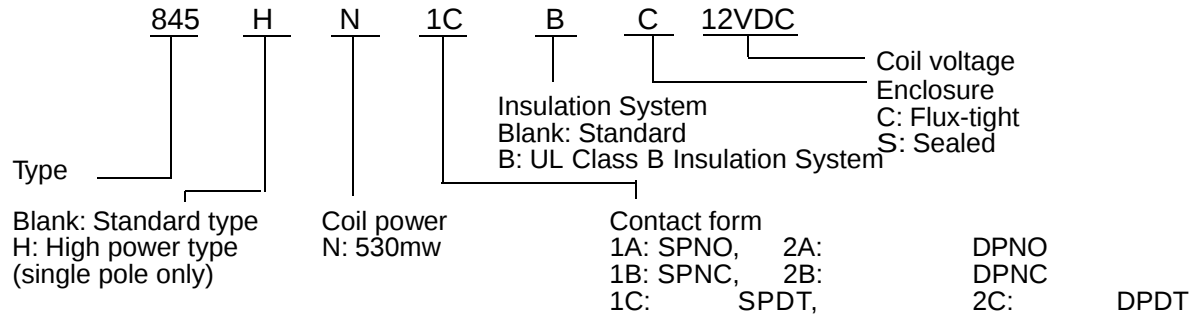
FEATURES

- Sub-Miniature —1 or 2 pole, 5-12 amps
- Low profile — 18.5mm
- UL, CSA & TUV
- VDE 8mm spacing, 4 KV dielectric
- 5mm & 3.5mm pinning
- Flux-tight or Sealed
- UL Class B Insulation System Optional

845



ORDERING INFORMATION



SAFETY APPROVAL

Certified	UL & CUR	TUV
File No.	E88991	R9754014

SAFETY APPROVAL RATING 845HN, 1 Pole

	UL & CUR (1A, 1B, 1C)	TUV (1A, 1B, 1C)
	12A 277VAC 12A 30VDC 1/2HP 125VAC/250VAC TV-5 (1A)	12A 250V~(AC) 12A 30V =(DC) 10A 250V~(AC) COS ϕ 0.4

SAFETY APPROVAL RATING 845N, 2 Pole

	UL & CUR (2A, 2B, 2C)	TUV 845 (2A, 2B, 2C)
	5A 277VAC 5A 30VDC 1/8 HP, 125VAC/250VAC TV-3 (1A)	5A 250V~(AC) 5A 30V =(DC) 3A 250V~(AC) COS ϕ 0.4

COIL DATA (DC) High sensitivity type

Rated voltage (V)	Rated current $\pm 10\%$ at 25° (mA)	Coil resistance $\pm 10\%$ at 25° (W)	Max.continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
3	176	17				
5	105	48				
6	88	68				
9	60	150	110% of rated voltage	80% of rated voltage	10% of rated voltage	approx. 0.53W
12	44	275				
18	30	610				
24	22	1100				

845

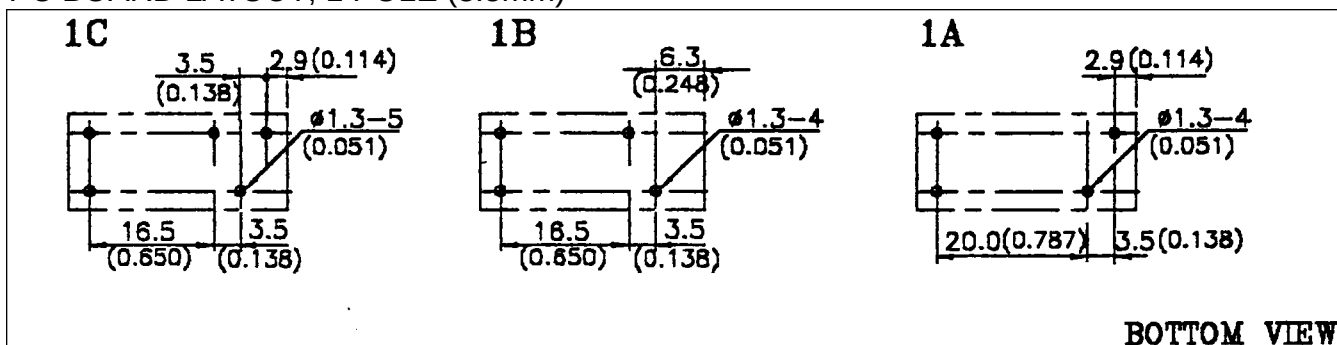
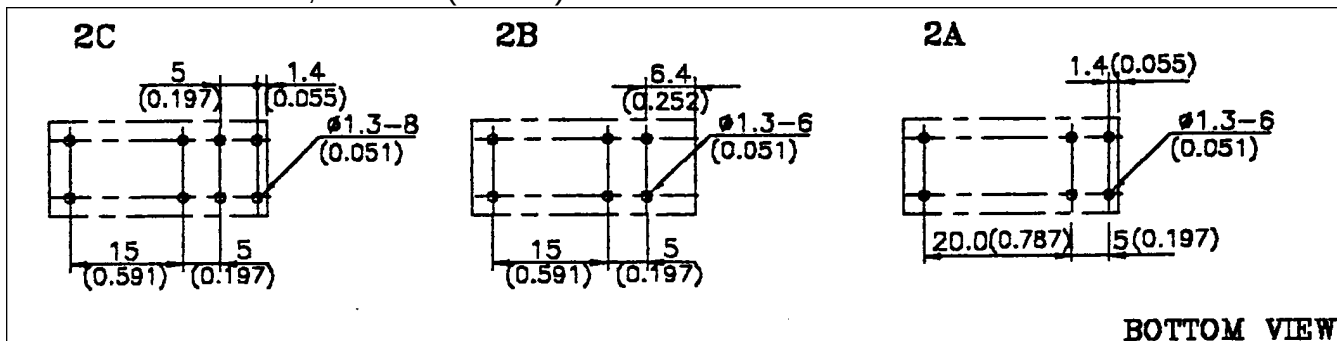
7 RELAYS

COIL DATA (DC) High sensitivity type (continued)

Rated voltage (V)	Rated current ± 10 % at 25° (mA)	Coil resistance ± 10 % at 25° (Ω)	Max.continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
36	15	2440	110% of rated voltage	80% of rated voltage	10% of rated voltage	approx. 0.53W
48	11	4400				
60	9	6800				

SPECIFICATION

Contact resistance	100mWMax. (initial value)	
Contact material	Ag alloy	
Operate time	10ms	
Release time	5ms	
Insulation resistance	100M WMin. (DC 500V)	
Dielectric strength	Between open contact	AC 1000V, 50/60Hz 1 min.
	Between contact and coil	AC 5000V, 50/60Hz 1 min.
Vibration resistance	Between contact circuits	AC 3000V, 50/60Hz 1 min. (for 2 pole only)
	Operating extremes	10 ~ 55Hz, amplitude 1.5mm
	Damage limits	>10 ~ 55Hz, amplitude 1.5mm
Shock resistance	Operating extremes	>10G
	Damage limits	>100G
Life expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,200 operations/hr under rated load)
Operating temperature	-40° ~ +70°C (no freezing)	
Weight	Approx. 14g	

PC BOARD LAYOUT, 1 POLE (3.5mm)

PC BOARD LAYOUT, 2 POLE (5.0mm)


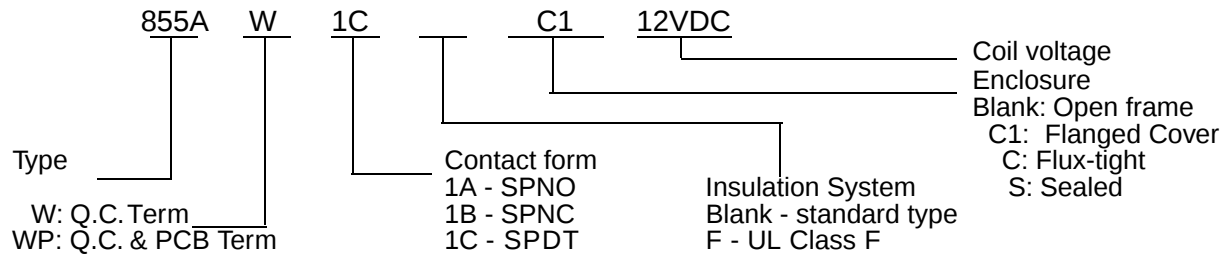
855A

FEATURES

- Miniature, 20-30 amps
- UL, CSA
- Flange Mount or PCB types with quick connects
- UL 508/ UL873 Spacing
- UL Class F Insulation System optional
- Open-frame, flux-tight or sealed



ORDERING INFORMATION



SAFETY APPROVAL

Certified	UL	CUR	TUV
File No.	Pending	Pending	

SAFETY APPROVAL RATING

1A	1B	1C
30A/240VAC/28VDC	15A/240VAC/28VDC	10A/20A/240VAC/28VDC

COIL DATA (DC)

Rated voltage (V)	Rated current $\pm 10\%$ at 25° (mA)	Coil resistance $\pm 10\%$ at 25° (W)	Max.continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
5	185	27	110% of rated voltage	75% of rated voltage	10% of rated voltage	approx. 0.93W
6	150	40				
9	93	97				
12	77	155				
18	47	380				
24	36	660				
36	25	1,440				
48	19	2,560				
110	8	13,400				

855A

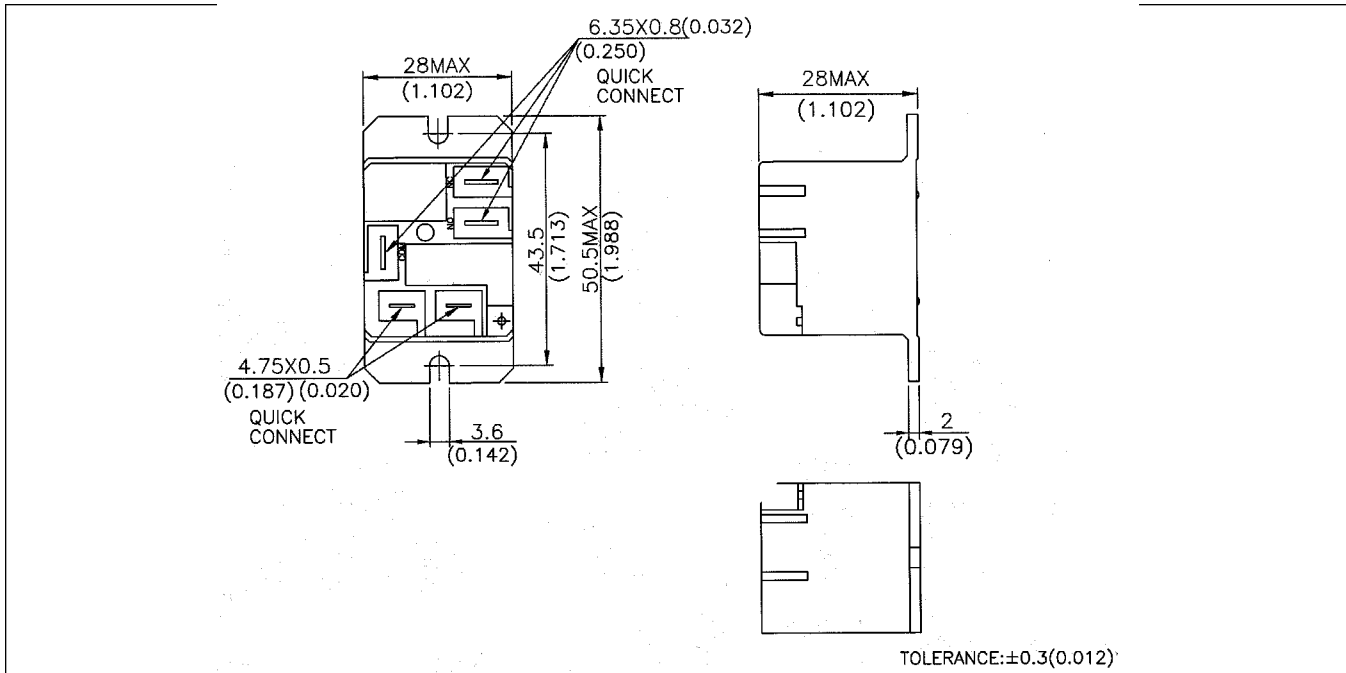
7

R E L A Y S

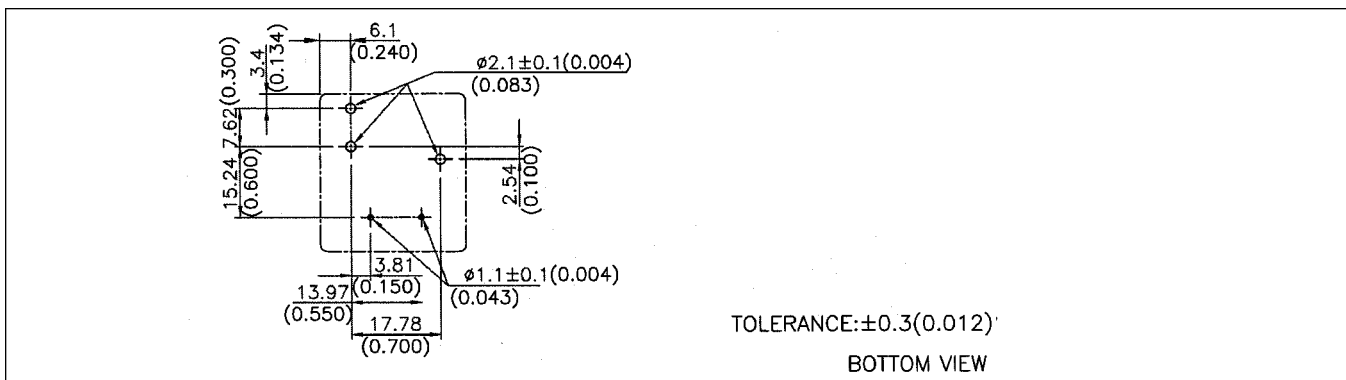
SPECIFICATION

Contact resistance	50mW Max. (initial value)	
Operate time	20ms Max.	
Release time	15ms Max.	
Insulation resistance	100M W Min. (DC 500V)	
Dielectric strength	Between open contact (initial)	AC 1500VRMS, 50/60Hz 1 min.
	Between contact and coil (initial)	AC 2000VRMS, 50/60Hz 1 min.
Vibration resistance	Operating extremes	10~55Hz, amplitude 1.5mm
	Damage limits	>10~55Hz, amplitude 1.5mm
Shock resistance	Operating extremes	>10G
	Damage limits	>100G
Life expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,800 operations/hr)
Operating temperature	-55°~ 105° C (no freezing)	
Weight	Approx. 36g (W), 30g (WP)	

855A W OUTLINE DIMENSIONS



PC BOARD LAYOUT - AWP



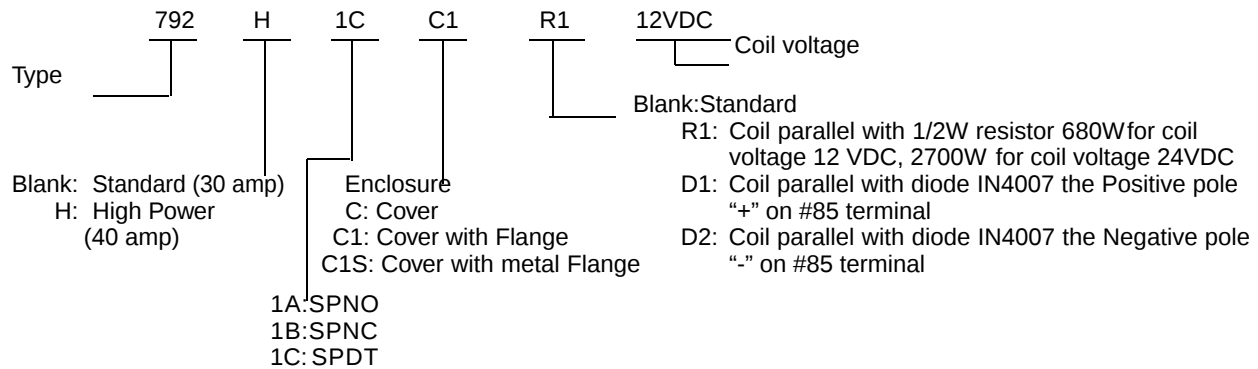
792/792H

FEATURES

- Automotive, 30-40 amps
- Q.C./Plug-in/Solder-lug
- Flanged Cover Options
- Sockets available



ORDERING INFORMATION



CONTACT RATING

Resistive Load	Standard Type	High Power Type
	1A: 30A 12VDC	1A: 40A 12VDC
	1B: 20A 12 VDC	1B: 30A 12 VDC
	1C: NO 30A 12VDC	1C: NO 40A 12VDC
	NC 20A 12VDC	NC 30A 12VDC

COIL DATA

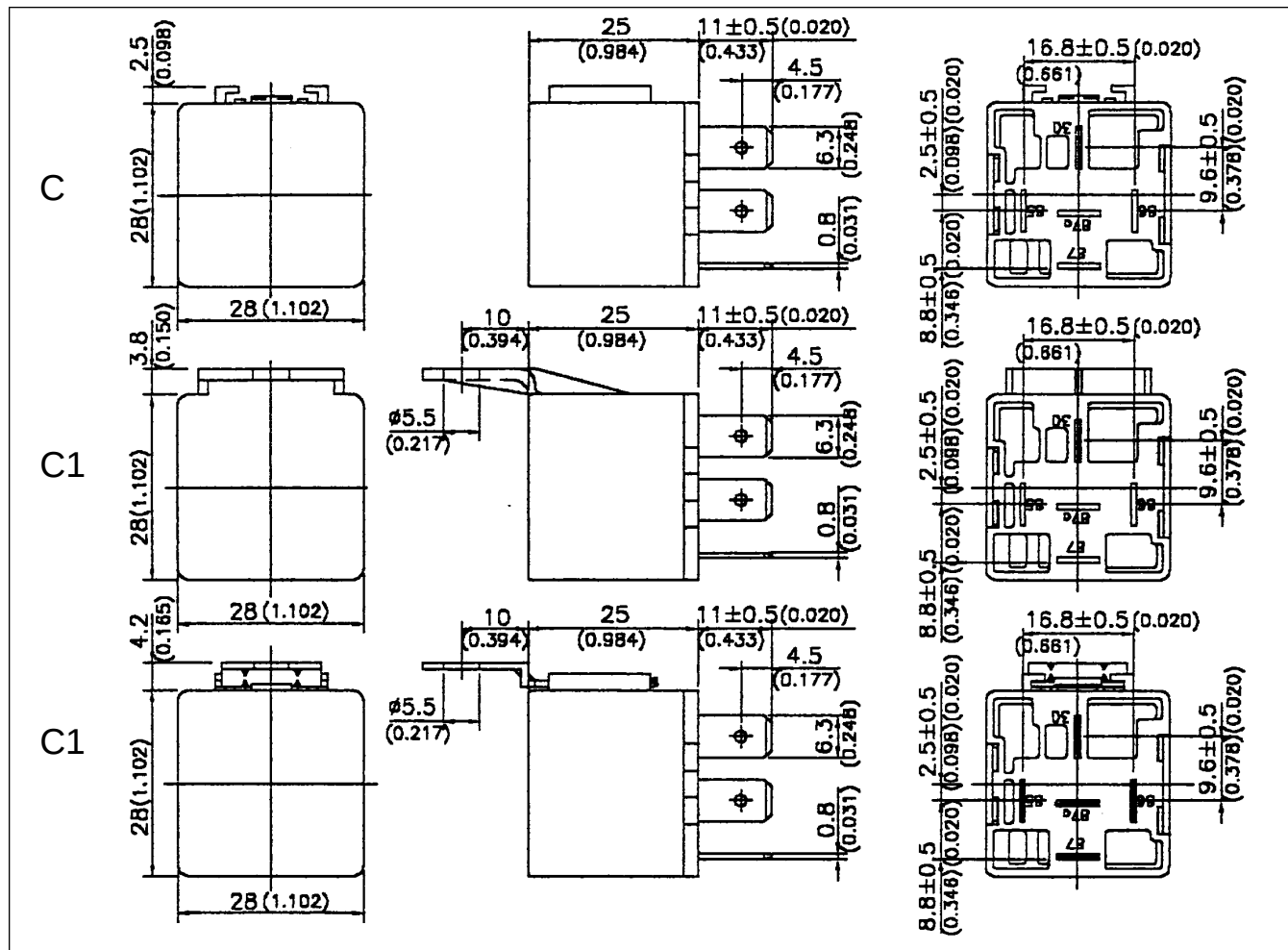
Nominal voltage	12VDC	24VDC
Pull in voltage (Max) at 20°C	7.8VDC	17VDC
Drop out voltage (Min) at 20°C	1.2VDC	2.4VDC
Coil resistance at 20°C	80W±10%	320W±10%

SPECIFICATION

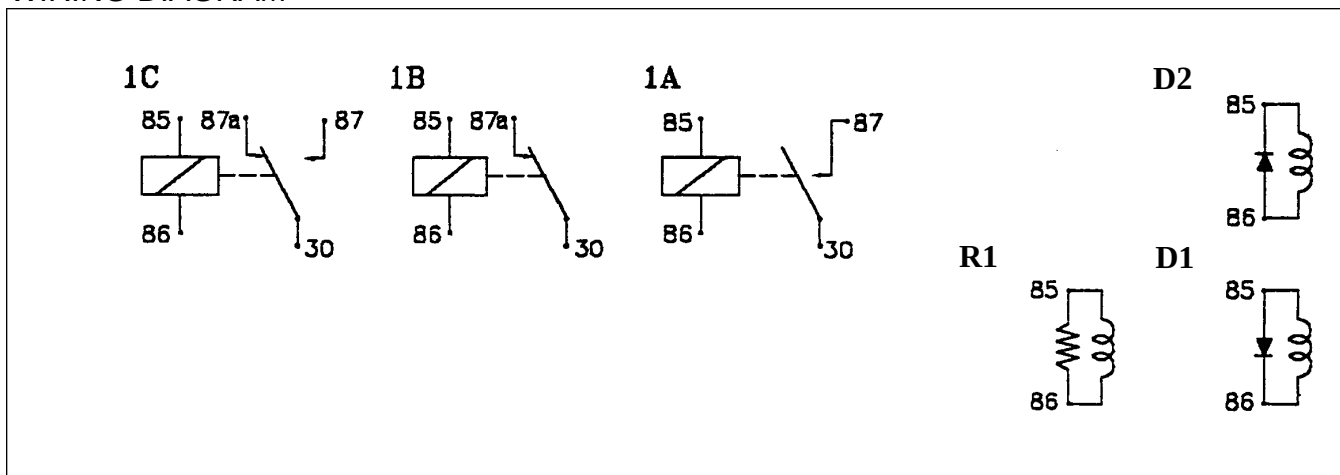
Operating temperature	Standard type	-40 ~ +85° C
	High power type	-40 ~ +70° C
Voltage drop between contact terminal (initial value)	300mV (AT 10AMPS)	
Operate time	10 ms Max.	
Release time	10 ms Max.	
Insulation resistance	50 M WMin. (DC 500V)	
Dielectric strength	AC 500V, 50/60Hz 1 min.	
Vibration resistance	10~55Hz, amplitude 2.0 mm	
Life Expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,200 operations/hr)
Weight	Approx. 40g	

792/792H

OUTLINE DIMENSIONS



WIRING DIAGRAM

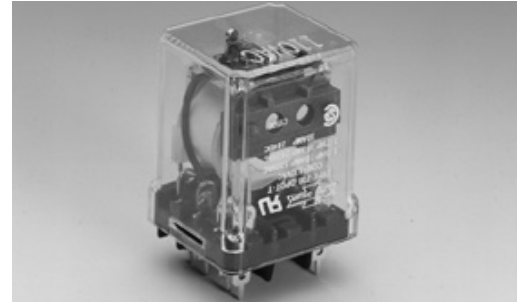


7
RELAYS

731

FEATURES

- General purpose, plug-in, 10 amps
- UL, CSA - CE
- 1, 2 or 3 pole
- Socket/Solder-lug or PCB terminals
- Push-to test, indicator light options
- AC/DC Coils
- Sockets available



ORDERING INFORMATION

Type	731	TPDT	C1	12VDC	Coil voltage
Contact form					Enclosure
SPDT - 1C					Blank: Open Frame
DPDT - 2C					C: Cover
TPDT - 3C					C1: Cover with Side Flange Mount
					C2: Tapped Mounting Hole (6-32) & Tab
					L: Lamp
					M: Push Button
					LM: Lamp & Push Button
					T: PCB terminal

SAFETY APPROVAL

Certified	UL	CSA	FIMKO
File No.	E88991	LR90143	193853-02

SAFETY APPROVAL RATING

	UL	CSA	FIMKO
	10A 240VAC/28VDC	10A 240VAC/28VDC	10A 250VAC
	1/3HP, 120VAC	1/3HP, 120VAC	
	1/2HP, 240VAC	1/2HP, 240VAC	

COIL DATA (DC)

Rated voltage (V)	Rated current $\pm 10\%$ at 25° (mA)	Coil resistance $\pm 10\%$ at 25° (Ω)	Max. continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
6	188	32				
12	100	120	100% of rated voltage	75% of rated voltage	10% of rated voltage	approx. 1.2W
24	51	472				
48	27	1800				
110	11	10000				

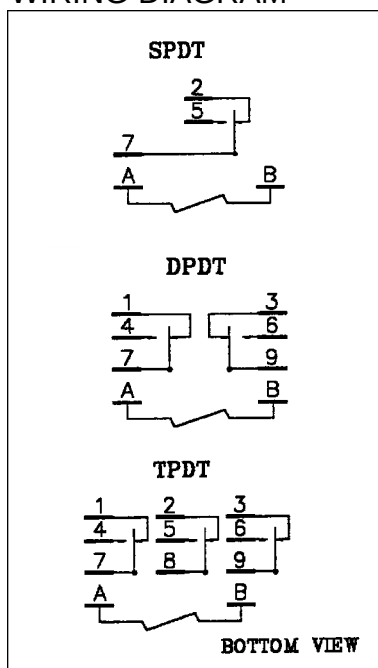
COIL DATA (AC)

	Rated voltage (V)	Coil resistance ± 10 % at 25° (W)	Max. continuous voltage 25°C	Pick up voltage (Max) 25°C	Drop out voltage (Min) 25°C	Power consumption at rated voltage
SP	12	21	100% of rated voltage	85% of rated voltage	30% of rated voltage	approx. 2.0VA
DP	24	85				
	120	2250				
	240	9110				
TP	12	18				approx. 2.7VA
	24	72				
	120	1700				
	240	7200				

SPECIFICATION

Contact resistance	50 m WMax. (initial value)	
Operate time	15ms	
Release time	10ms	
Insulation resistance	1000M WMin. (DC 500V)	
Dielectric strength	Between open contact	AC 1000V, 50/60Hz 1 min.
	Between contact and coil	AC 1500V, 50/60Hz 1min.
	Between contact circuits	AC 1500V, 50/60Hz 1 min.
Vibration resistance	Operating extremes	10~50Hz, amplitude 1.0mm
	Damage limits	>10~50Hz, amplitude 1.5mm
Shock resistance	Operating extremes	>10G
	Damage limits	>100G
Life expectancy	Mechanical	>10,000,000 operations (frequency 18,000 operations/hr)
	Electrical	>100,000 operations (frequency 1,200 operations/hr)
Operating temperature	-45 ~ +70° C (no freezing)	
Weight	Approx. 79.2g	

WIRING DIAGRAM



OUTLINE DIMENSIONS

