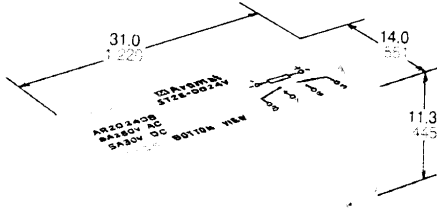


**NAIS**

**IC DRIVABLE PC BOARD  
RELAY FOR FIELD LOAD  
SWITCHING**

**STE-RELAYS**



mm inch

UL File No.: E57520

CSA File No.: LR26550

- Sealed to meet the combination process of automatic wave soldering and cleaning needs
- Latching types available
- High switching capacity and high sensitivity in subminiature size  
150 mW pick-up, 8 A, inrush capacity: 51 A for 1a1b  
35 A for 2a
- High shock and vibration resistance  
Shock: 20 G  
Vibration: 10 to 55 Hz at double amplitude of 2 mm

**SPECIFICATIONS**

**Contacts**

Arrangement	1 Form A   1 Form B   2 Form A
Contact material	Gold flash over silver alloy
Initial contact resistance, max.	30 mΩ
Rating (resistive)	
Max. switching power	2000 VA, 150 W
Max. switching voltage	380 V AC
Max. switching current	8 A
HP rating	1/4 HP 125, 250 V AC
Expected life (min. operations)	
Mechanical (at 180 cpm)	10 <sup>7</sup>
Electrical	
8 A 250 V AC (resistive)	10 <sup>5</sup>
5 A 30 V DC (resistive)	2 × 10 <sup>5</sup>
3 A 100 V AC (lamp)	3 × 10 <sup>4</sup>   —
1 A 100 V AC (lamp)	—   3 × 10 <sup>4</sup>

**Coil (polarized) (at 25°C 77°F)**

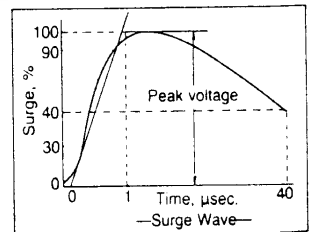
Single side stable	Minimum operating power	Approx. 150 mW
	Nominal operating power	Approx. 240 mW
Latching	Minimum set and reset power	Approx. 150 mW
	Nominal set and reset power	Approx. 240 mW

**Characteristics (at 25°C 77°F 50% Relative humidity)**

Max. operating speed	30 cps.	
Operate time* (at nominal voltage)	Max. 15 msec. (Approx. 10 msec.)	
Release time* (at nominal voltage)	Max. 10 msec. (Approx. 8 msec.)	
Set time* (latching) (at nominal voltage)	Max. 15 msec. (Approx. 8 msec.)	
Reset time* (latching) (at nominal voltage)	Max. 15 msec. (Approx. 8 msec.)	
Initial breakdown voltage		
Between contact sets	2,000 Vrms	
Between open contacts	1,200 Vrms	
Between contacts and coil	3,750 Vrms	
Initial insulation resistance	1,000 MΩ at 500 V DC	
Inrush current capability	51 A (TV-3 equivalence) for 1a1b 35 A (TV-1 equivalence) for 2a	
**Surge voltage between coil and contact	6,000 V	
Temperature rise (at nominal voltage)	Max. 55°C	
Ambient temperature	-40°C to +60°C -40°F to +140°F	
Shock resistance	Functional	Min. 196 m/s <sup>2</sup> (20 G)
	Destructive	Min. 980 m/s <sup>2</sup> (100 G)
Vibration resistance	Functional	117.6 m/s <sup>2</sup> (12 G), 10 to 55 Hz at double amplitude of 2 mm
	Destructive	176.4 m/s <sup>2</sup> (18 G), 10 to 55 Hz at double amplitude of 3 mm
Unit weight	Approx. 8 g .28 oz	

\* Excluding contact bounce time

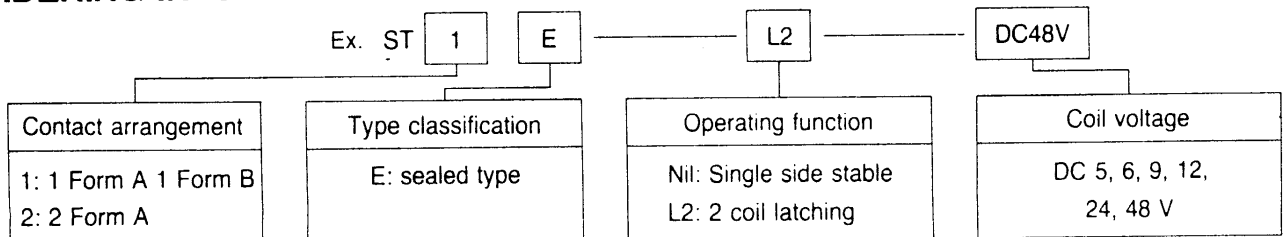
\*\*Applied surge wave.



**TYPICAL APPLICATIONS**

Sequence controllers, facsimiles, telephone controls, remote control security devices and security equipment.

**ORDERING INFORMATION**



(Standard packing) Carton : 50 pcs., Case: 500 pcs.

# TYPES AND COIL DATA at 20°C 68 F

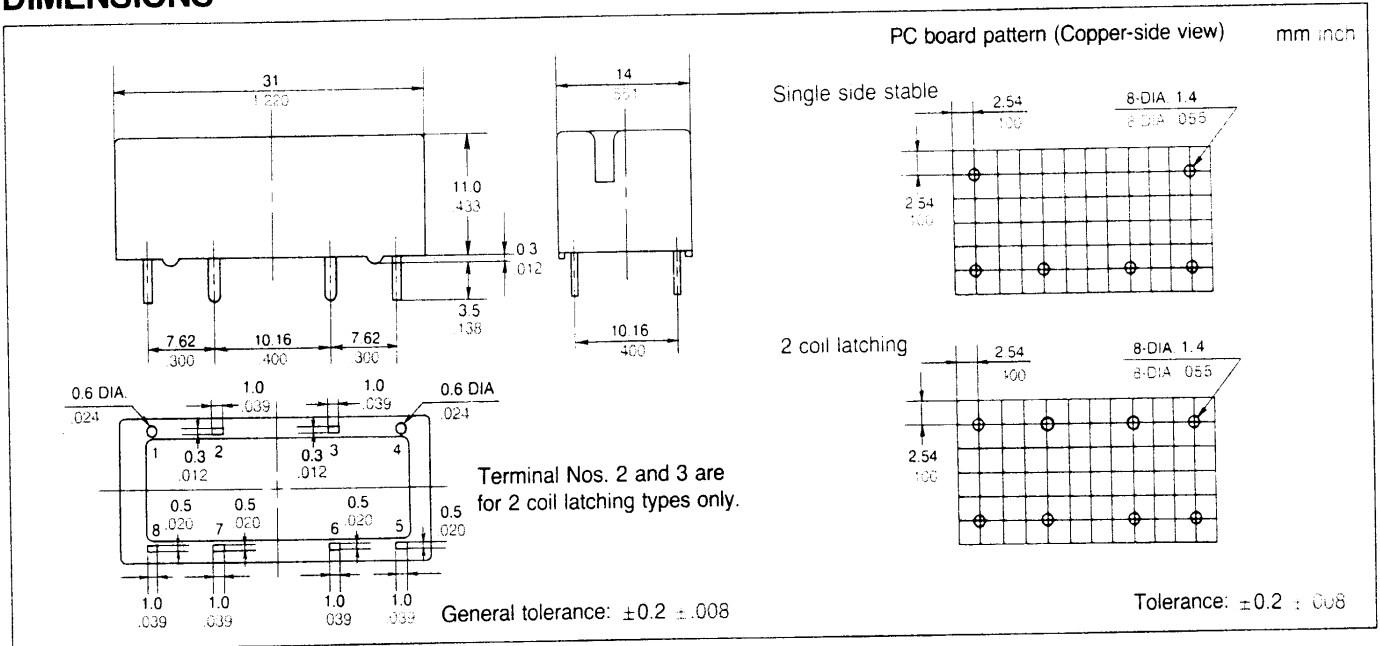
Single side stable

Part No.		Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Maximum allowable voltage, V DC (60°C)	Coil resistance, Ω (±10%)	Nominal operating current, mA
ST1E-DC5V	ST2E-DC5V	5	4.0	0.5	7.5	105	47.6
ST1E-DC6V	ST2E-DC6V	6	4.8	0.6	9.0	150	40
ST1E-DC9V	ST2E-DC9V	9	7.2	0.9	13.5	360	25
ST1E-DC12V	ST2E-DC12V	12	9.6	1.2	18.0	600	20
ST1E-DC24V	ST2E-DC24V	24	19.2	2.4	36.0	2400	10
ST1E-DC48V	ST2E-DC48V	48	38.4	4.8	72.0	9000	5.3

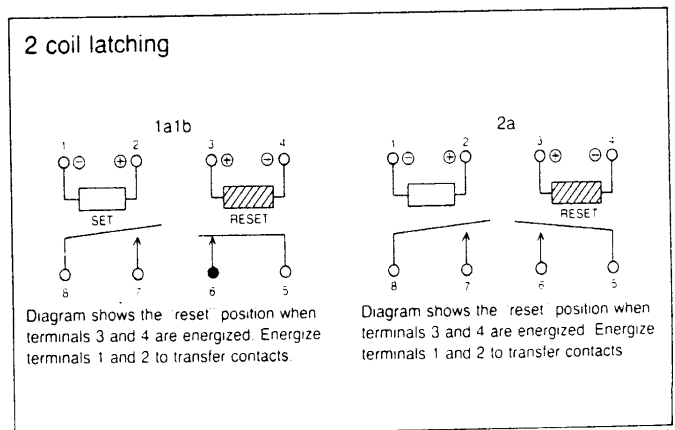
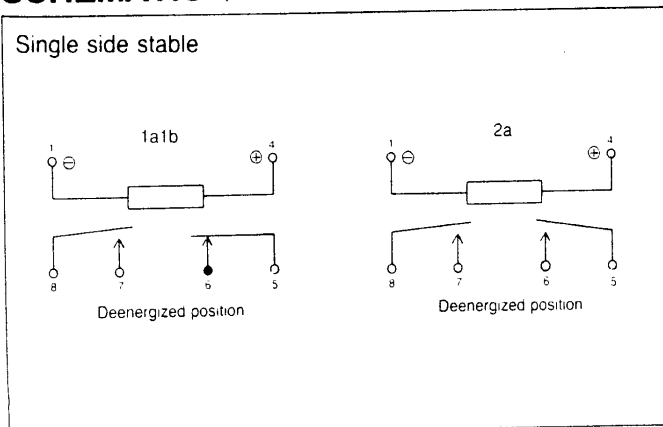
2 coil latching

Part No.		Nominal voltage V DC	Set and reset voltage, V DC (max.)	Maximum allowable voltage, V DC (60°C)	Coil resistance, Ω (±10%)	Nominal operating current, mA
ST1E-L2-DC5V	ST2E-L2-DC5V	5	4.0	7.5	110	45
ST1E-L2-DC6V	ST2E-L2-DC6V	6	4.8	9.0	155	38.7
ST1E-L2-DC9V	ST2E-L2-DC9V	9	7.2	13.5	360	25
ST1E-L2-DC12V	ST2E-L2-DC12V	12	9.6	18.0	640	18.8
ST1E-L2-DC24V	ST2E-L2-DC24V	24	19.2	36.0	2400	10
ST1E-L2-DC48V	ST2E-L2-DC48V	48	38.4	72.0	10200	4.7

## DIMENSIONS

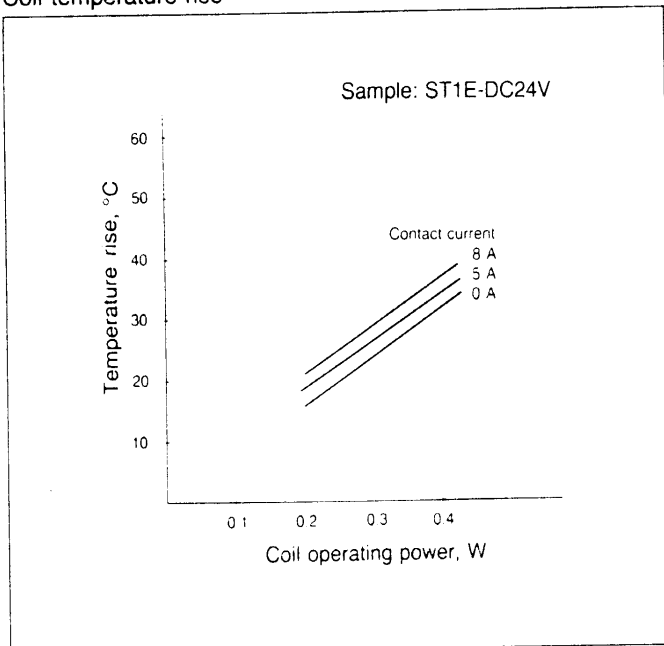


## SCHEMATIC (Bottom view)

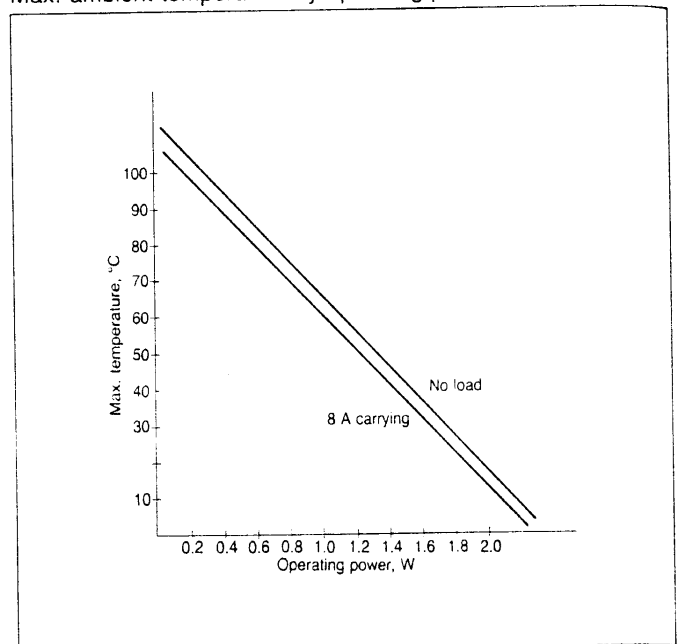


## DATA

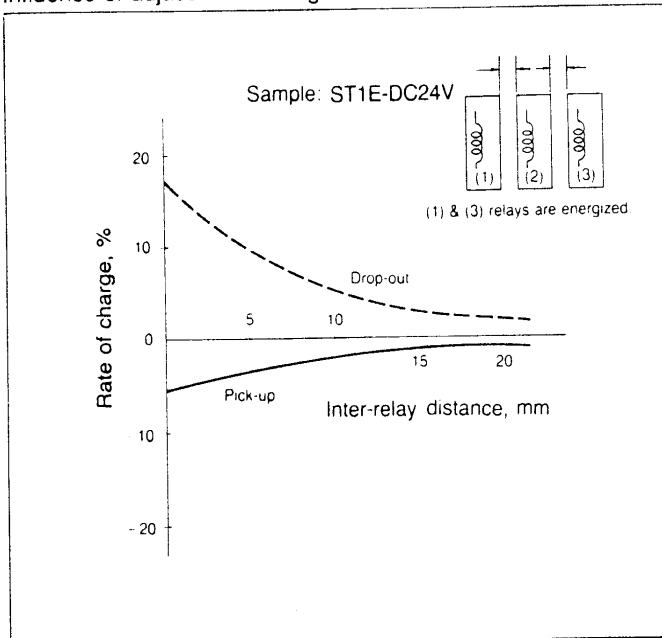
Coil temperature rise



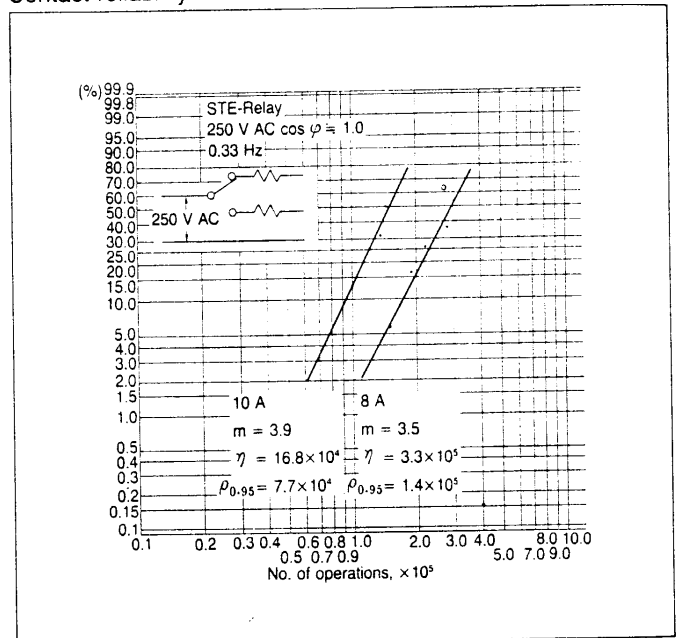
Max. ambient temperature by operating power



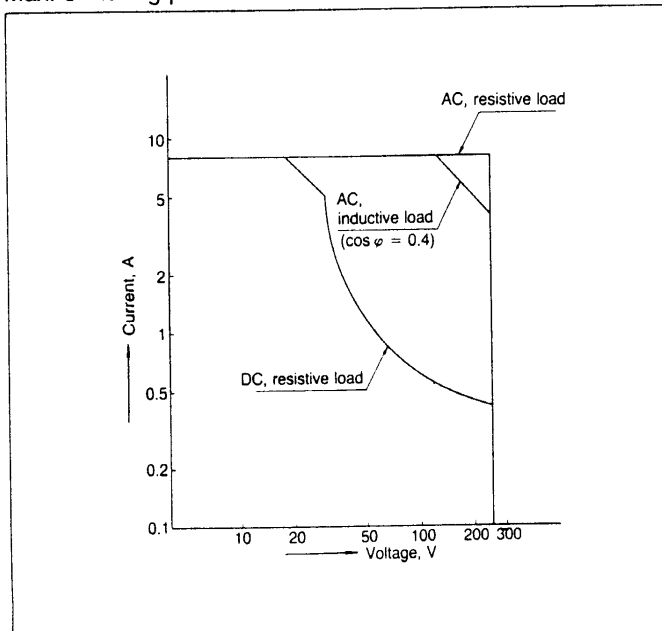
Influence of adjacent mounting



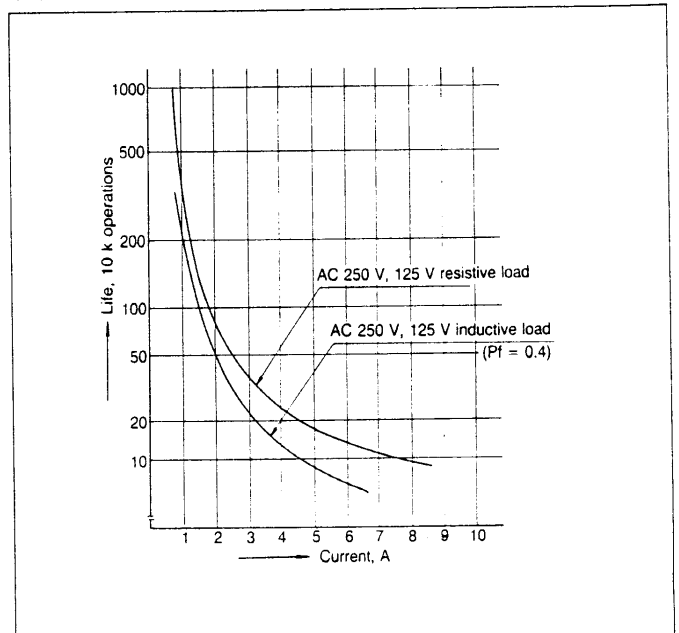
Contact reliability



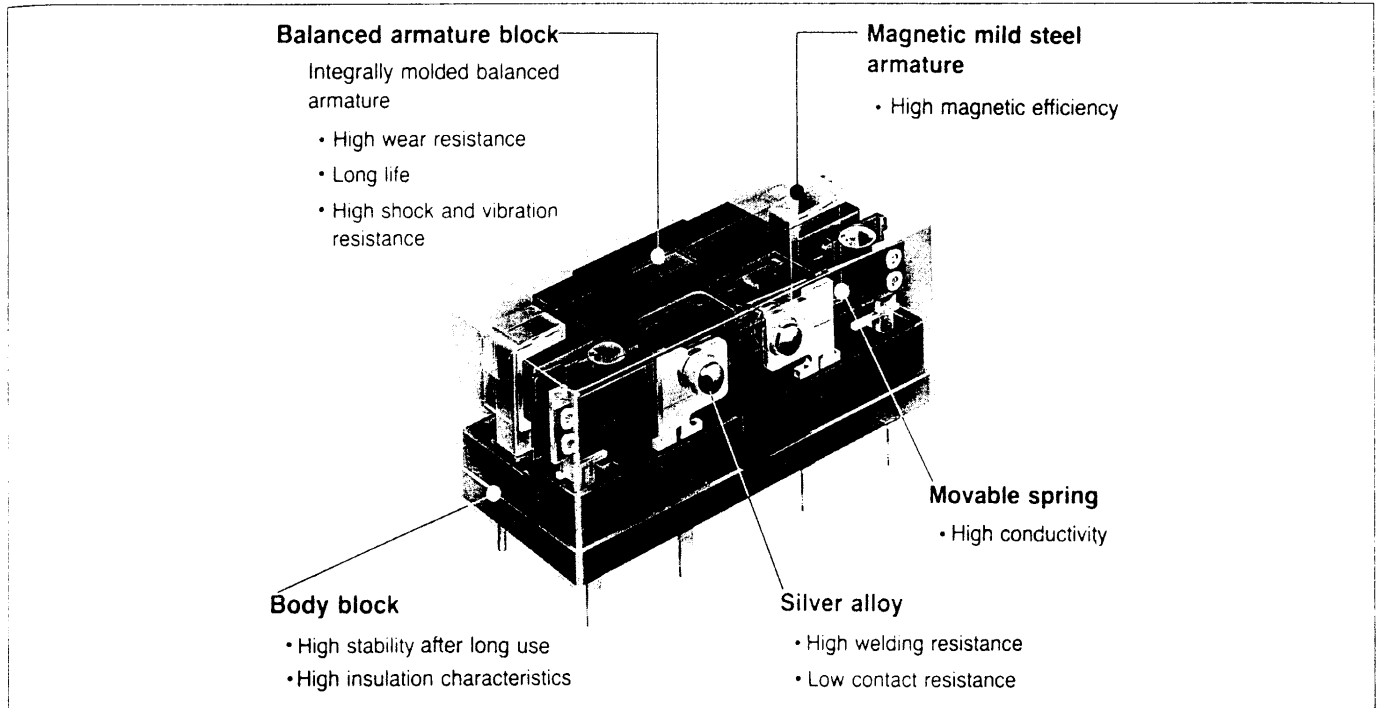
Max. switching power



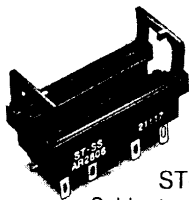
Life curve



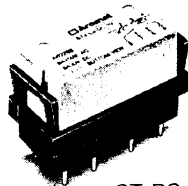
# CONSTRUCTION



# ACCESSORIES



**ST-SS**  
Solder terminal socket



**ST-PS**  
PC board terminal socket

## Specifications

Breakdown voltage	4,000 Vrms Coil/Contacts 2,000 Vrms Contacts/Contacts
Insulation resistance	More than 1,000 MΩ between terminals
Heat resistance	150°C (302°F) for 1 hr
Max. continuous current	10 A
Relay insertion life	15 times

# DIMENSIONS

mm inch

