

# SEMI F47-0706

## AF..Z contactors and NFZ contactor relays

### IMS Control & EPR

- SEMI F47-0706 definition
- AF..Z contactors and NFZ contactor relays increase the voltage sag immunity and the uptime of semiconductor processing equipment without use of specific accessory



#### Definitions according to SEMI F47-0706

SEMI F47-0706 defines the voltage sag immunity required for semiconductor processing, metrology and automated test equipment, and on subsystems and components which are used in the construction of semiconductor processing equipment including but not limited to:

- Power supplies
- Generators
- Robots and factory interface
- Chillers, pumps, blowers
- AC operated contactors and contactor relays
- ...

#### Voltage sag immunity

The ability of equipment to withstand momentary electrical power interruptions or sags

#### Voltage sag

An rms reduction in the AC voltage, at the power frequency, for durations from a half cycle to a few seconds.

The IEC terminology for this phenomenon is voltage dip.

#### Characteristics

- AF..Z** contactors and **NFZ** contactor relays are compliant to SEMI F47-0706 and withstand voltage sags for
  - required voltage sag immunity
  - recommended voltage sag immunity ( $\leq 20$  ms)
- Conditions of use:**
  - rated control circuit voltages between 24 V to 250 V AC 50/60Hz
  - air ambient temperature  $-20^{\circ}\text{C} \leq \theta \leq +60^{\circ}\text{C}$
  - 1-stack and factory-mounted 2-stack contactors and contactors relays without additional accessories.

#### Rated control circuit voltages

Value limits	Contactor or contactor relay selection
24...60 V 50/60 Hz	AF..Z or NFZ with coil code 21
60...130 V 50/60 Hz	AF..Z or NFZ with coil code 22
130...250 V 50/60 Hz	AF..Z or NFZ with coil code 23

