



**INSTRUCTIONS**

GEI-68711E

# **SILICON JUNCTION RECTIFIER FOR TRIPPING DUTY**

**Type 102L218**

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**GENERAL  ELECTRIC**

## DESCRIPTION

INTRODUCTION

The 102L218 is an assembly consisting of one or two Silicon Junction rectifiers in a protective case with facilities for mounting on the rear of any size drawout relay case. (See figures 1 to 4).

APPLICATION

The application of these rectifiers in trip circuits provides for a separation between two different circuits without resorting to an auxiliary relay. One example would be the tripping of two circuit breakers simultaneously by a single contact, even though each circuit breaker is connected to be tripped separately by its own control switch, as shown in figure 5.

OPERATING CHARACTERISTICS

A typical voltage drop is 1.2 volts or less at 30 amperes d-c.

The leakage current does not exceed four milliamperes at the maximum rated blocking voltage.

RATINGS

The voltage and current ratings of the tripping rectifier are listed in the following table:

102L218	GROUP NO.						
	8	9	11	12	13	14	15
† Maximum DC Blocking Volts	400	600	400	600	600	1200	1200
Continuous DC Amperes	10	10	10	10	10	10	10
30-second DC Amperes	30	30	30	30	35	35	35
Rectifiers	2	2	1	1	1	1	2

† Voltages greater than rating, even for a short period, may damage the rectifier. To aid in suppressing damaging surge voltages, a capacitor has been placed across each rectifier. These transient voltages can arise from an induction between the battery and the control bus such as an alarm relay. If such a relay must be used, it should be by-passed by a rectifier which will block the flow of trip current, but will permit the series alarm relay current to circulate through the rectifier when the trip current is interrupted. The practice of running both positive and negative leads of the control circuit in separate steel conduits is another source of inductance which may produce excessive transient voltages. This voltage can be minimized by installing leads of both polarities in the same conduit. In existing stations, where the conductors are in separate conduits, the voltage can be reduced by adding capacitance across the control bus.

CONSTRUCTION

The rectifiers are mounted on brass blocks which serve as heat sinks. The rectifiers are tightened in the blocks with a torque of 25 to 30 pound-inches.

*These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.*

*To the extent required the products described herein meet applicable ANSI, IEEE and NEMA standards; but no such assurance is given with respect to local codes and ordinances because they vary greatly.*

INSTALLATION

The rectifier assembly is supplied with a plate to facilitate mounting on the relay case mounting studs. Outline drawings for the single unit and the double unit rectifiers are shown in figures 6 and 7, respectively. Figures 8 and 9 indicate mounting positions, on the drawout case, for both the single and double unit rectifier.

RENEWAL PARTS

If one of the components should become damaged, it may be removed and replaced. Order according to the GE part # shown below:

0102L218G-	QTY.	RECTIFIER PART #	QTY	CAPACITOR PART #
8	2	0246A9410P2158	2	0227A2373G26
9	2	0246A9410P2160	2	0227A2373G26
11	1	0246A9410P2158	1	0227A2373G26
12	1	0246A9410P2160	1	0227A2373G26
13	1	0246A9412P4527	1	0227A2373G26
14	1	0246A9412P4530	1	0227A2373G26
15	2	0246A9410P2158	2	0227A2373G26

Since the last edition, Group 15 has been added.

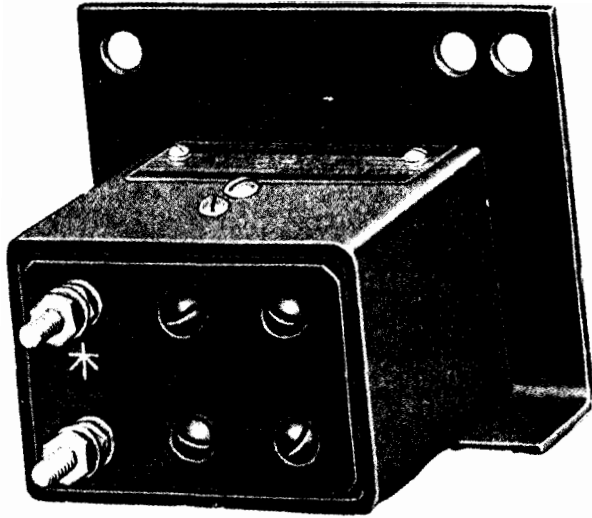


Figure 1 (8025904). Type 102L218 Single Unit Rectifier with Protective Case and Mounting Plate

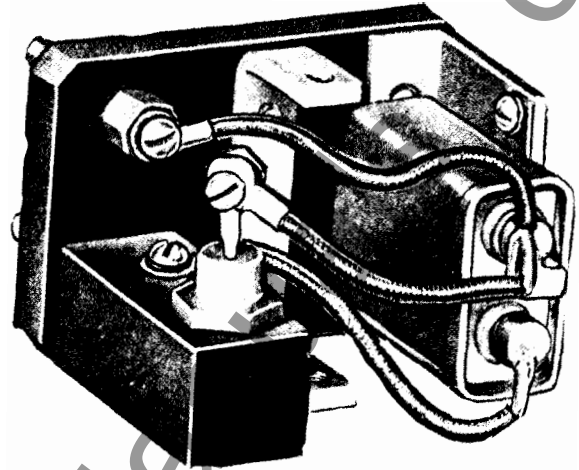


Figure 2 (8025905). Type 102L218 Single Unit Rectifier with Protective Case Removed

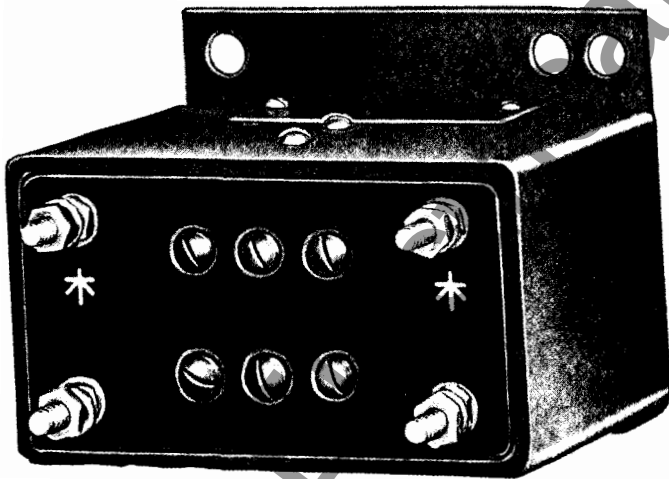


Figure 3 (8025901). Type 102L218 Double Unit Rectifier with Protective Case and Mounting Plate

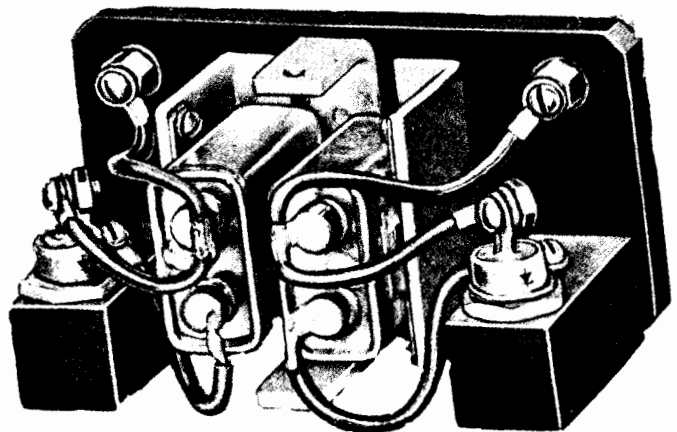


Figure 4 (8025900). Type 102L218 Double Unit Rectifier with Protective Case Removed

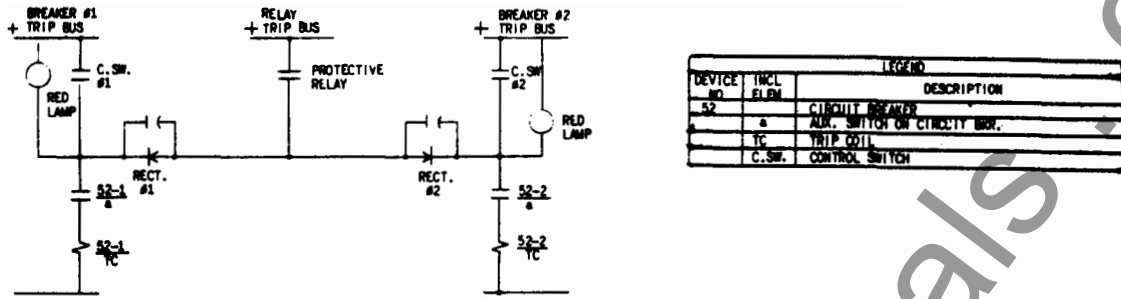


Figure 5 (0104A8560-1). Typical External Connections for Type 102L218 Rectifier

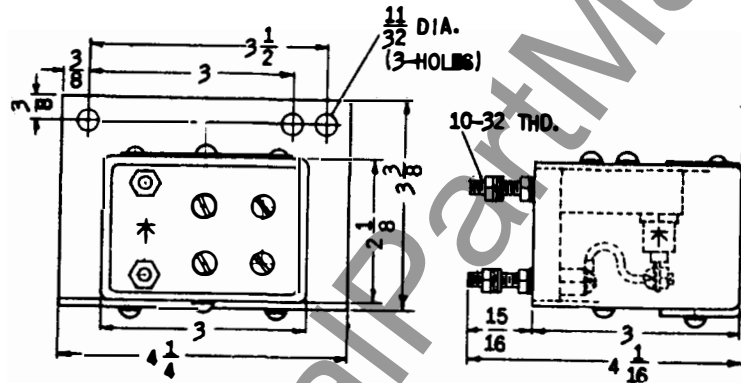


Figure 6 (0104A8523-3) Outline for Single Unit Tripping Rectifier.

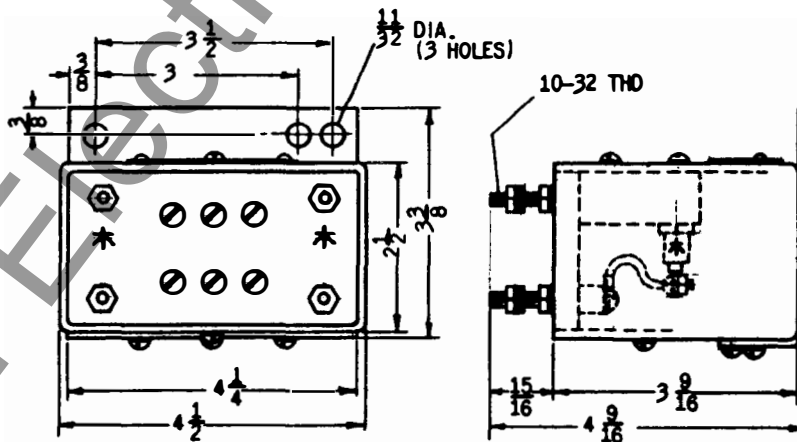


Figure 7 (0104A8584-3). Outline for Double Unit Tripping Rectifier.

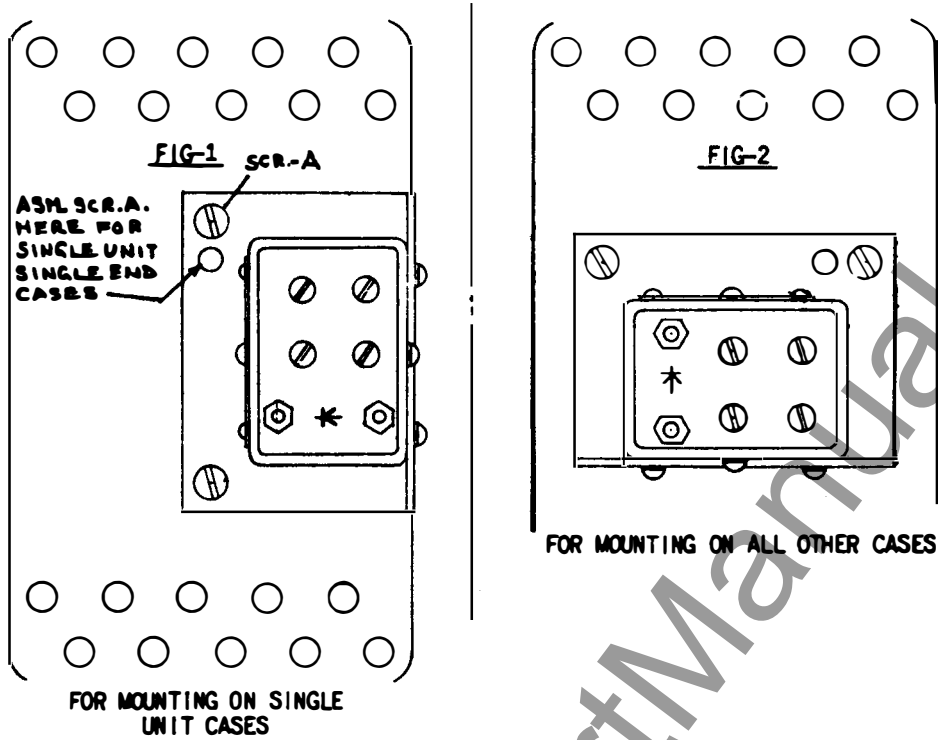


Figure 8 (0104A8523-3) Mounting Position on Relay Case for Single Unit Tripping Rectifier.

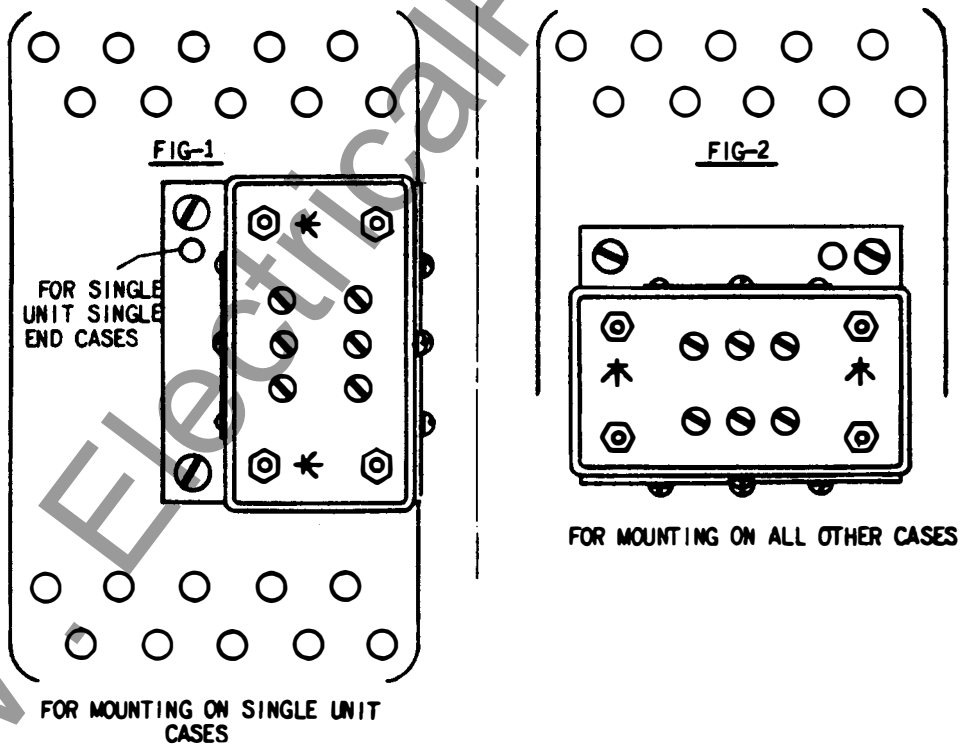


Figure 9 (0104A8584-3). Mounting Position on Relay Case for Double Unit Tripping Rectifier.

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## ***Protection and Control***

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