MTL MTL Series Service Manual

MTL3052

1. Description

This unit is similar in principle to the MTL3042 but operates at a

3. Product Information

This unit is similar in principle to the MTL3042 but operates at a
higher frequency for use with digital signals. Its primary application is
to provide IS protection for the data highways and transmitters in
MTL800 Series multiplexer systems. The MTL3052 features two output
circuits: one with a 15V 180Ω safety description, and an alternative
15V 100Ω circuit which can be used if higher loop resistances need
to be accommodated, for example when surge protectors are
incorporated in the data highways. If the low-resistance outputs are
used on two units fitted to a dual-highway system however, the
multiplexer transmitters are restricted to location in IIB atmospheres.

SPECIFICATION

See also 'Common specification'

Number of channels

One, fully floating

Location of load

Zone 0, IIC, T4–6 hazardous area if suitably certified

Div 1, Group A, hazardous location

Zone 0, IIB, T4–6 (Div 1, Group C, hazardous location)
for multiplexer transmitters in dual-highway systems using
the low-resistance outputs of two MTL3052s

Input voltage

4 to 12V dc

Signal bandwidth

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dc to 10kHz

Minimum output voltage

[Vin minus (0.25 x current in mA)] V

Input and output circuit ripple

<1mA peak-to-peak

Power dissipation within unit

160mW maximum at 12V with 20mA signal

Replaceable fuse

50mA, 5 x 20mm glass to DIN 41571 sht. 2,
semi-time-lag (M)

Safety description

Terminals 5 & 6

15V, 100Ω, 150mA, Um = 250V rms or dc

Terminals 6 & 7

15V, 180Ω, 83.3mA, Um = 250V rms or dc

FM max entity parameters

Voc = 15V, Isc = 83.3mA, Ca = 0.75µF, La = 5.2mH

Weight

130g

OTHER APPLICATIONS

The MTL3052 is suitable for a variety of other applications, such as
bringing back the status of a hazardous-area mechanical or optotransistor switch, or a magnetic shaft encoder (all via suitable current
limiting resistors).