

APPLICATION NOTE:

Adding External Voltage Transient Suppressors To the SCAT -2 and Gryphon – S3 on-board High Speed CAN Channels

Background:

In some operating environments, such as industrial plant floor, additional CAN line protection may be needed to suppress Voltage Transients.

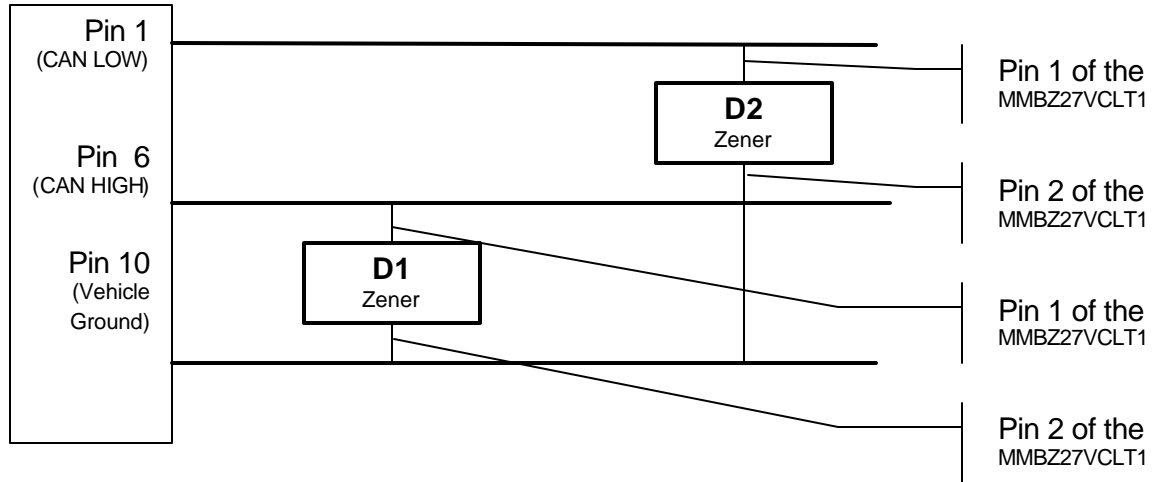
Scope:

This application note will explain one typical method to enhance the protection of the High Speed CAN on-board channels of the SCAT-2 and Gryphon – S3 units. This application note does not apply to SW CAN [Low Speed CAN] channels.

PIN Connections to the Main Connector (CAN1/CAN2):

Pin on DB15 HD	SCAT-2 and Gryphon – S3 with SW CAN and HS CAN Channels	Gryphon – S3 with Two HS CAN Channels
1	CAN-LOW (channel 2)	CAN-LOW (channel 2)
2	Signal Ground (channel 1)	CAN-LOW (channel 1)
3	<i>Do Not connect</i>	<i>Do Not connect</i>
4	<i>Do Not connect</i>	<i>Do Not connect</i>
5	Signal Ground	Signal Ground
6	CAN-High (channel 2)	CAN-High (channel 2)
7	SWCAN (channel 1)	CAN-High (channel 1)
8	<i>Do Not connect</i>	<i>Do Not connect</i>
9	<i>Do Not connect</i>	<i>Do Not connect</i>
10	V– IN / Power Ground	V– IN/Power Ground
11	<i>Do Not connect</i>	<i>Do Not connect</i>
12	PASSTHRU1	PASSTHRU1
13	PASSTHRU2	PASSTHRU2
14	<i>Do Not connect</i>	<i>Do Not connect</i>
15	V+ IN (input voltage: 6 – 32 VDC)	V+ IN (input voltage: 6 – 32 VDC)

1. Using the DB-15 High Density (HD) Male connector provided with the unit, a Transient Voltage suppressor needs to be soldered in between each of the High Speed CAN Bus lines [CAN-HIGH and CAN-LOW].



2. Parts used:

D1 and **D2** are a MMBZ27VCLT1 Zener Transient Voltage Suppressor.
Digi-Key Part Number : MMBZ27VCLT1GOSCT

3. For the Gryphon – S3 with two High Speed CAN Channels, Channel 1 will use Pin 2 for CAN – LOW, and Pin 7 for CAN – High.