DCC North Rail

DCC South Rail

South Rail Frog Switch

North Rail Frog Switch

Power

From DCC Rails

DO I PUT A PTC IN THIS LEG?

~5mA Quesient

To Frog

DO I PUT A PTC IN THIS LEG?

BiDirectional Current Sense

Tortoise Motor Current

IF THERE IS IMPEDANCE BETWEEN RAILS POWER AND LOCAL POWER I DON'T NEED ISOLATION

Tortoise SPDT - 1

Tortoise SPDT - 2

CAN Interface

Rx_In Low Thres = 0.66V
Rx_In Hi Thres = 2.64V

75mA Max

Toggle N/S Rail to the Frog or disconnects in case of a short

Tx_Out Min = 0.4V
Tx_Out Max = 2.4V

Rx_Out Min = 0.8V
Rx_Out Max = 3.5V

Tx_In Low Thres = 0.8V
Tx_In Hi Thres = 2.0V

MCP2551 Rx Out Min = 0.8V; dsPIC Rx In Thres =0.66V
But this is at 8ma load we are at 10ua

Remote Switch Toggle

External Feedback

External Frog Polarity Indicator

UART Interface

WHERE IS THE EEPROM???

OpenLCB Tortoise Node