Features

→ Operating voltage: 3.3V / 5.0V

→ I/O-Isolation 3000 VDC

→ Baud rate　19200bps(MAX)

→ Bus protection

→ Quiescent Current<35mA(Typ)

→ No External Components Required

→ ESD Protection　Contact　$\pm$8KV　Air　$\pm$15KV

→ Operating temperature　-40　　+85

→ IEC61000-4-2 Standard
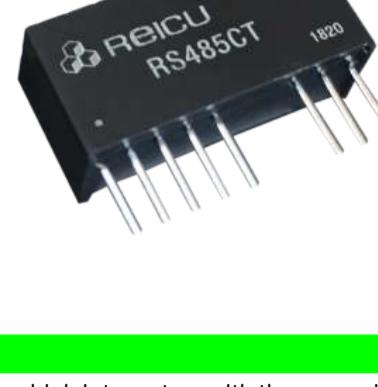
Description

RS485 series is the fully isolation and half duplex transceiver, which integrates with the power isolation, electrical isolation, the RS-485 interface chip and the bus protection function. It is suitable for the data transmission for bidirectional data communication or multi node bus, The maximum transmission data rate is up to 19200bps. It is built-in isolated DC/DC inverter, with the isolation voltage up to 3KVDC, It is small, no need peripheral circuit, convenient to embed the user equipment. The bus is with the ESD protection function, meets the standard of IEC61000-4-2.

Model Selection Guide

Order Code	Input Voltage		Baud rate(bps)	Bus Over Voltage Protection	Package
	Vin(VDC)	Range(VDC)			
RS3485C	3.3	3.17-3.45	19200	No	SIP10
RS3485CT				Yes	
RS485C	5.0	4.75-5.25	19200	No	
RS485CT				Yes	

Parameter

Item	Specification	Min	Typ	Max	Units
Input Voltage		4.75	5.0	5.25	VDC
		3.17	3.3	3.45	VDC
Operating Temperature		-40		+85	
Storage Temperature		-55		+125	
Isolation voltage			3000		VDC
Isolation capacitance			40		pF
Humidity		10		95	%
Quiescent Current			35		mA
Device Amounts				256	Point
Propagation delay time		50		100	μS
CON pin current				6	mA
ESD Protection	Contact			$\pm$8	KV
	Air			$\pm$15	KV

Receiver Function

Input(V_{A-B})	Control(CON)	Output(RXD)
V_{A-B}　+0.2VDC	1	1
V_{A-B}　-0.2VDC	1	0

Driver Function

| Input(TXD)	Control(CON)	Output(A)	Output(B)
1	0	1	0
0	0	0	1

Application

Application Area

- Industry control
- Automatic control on electrical power system
- Building Control Systems
- Communication
- Programmable Logic Controller
- Mining

Typical Circuit
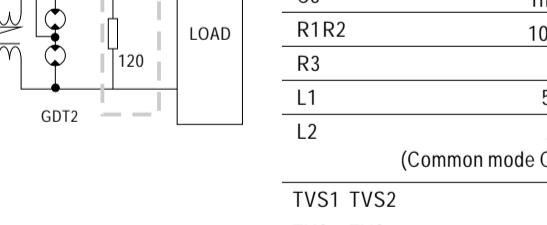
Isolation 3000VDC

EMC Recommended Circuit

Isolation 3000VDC
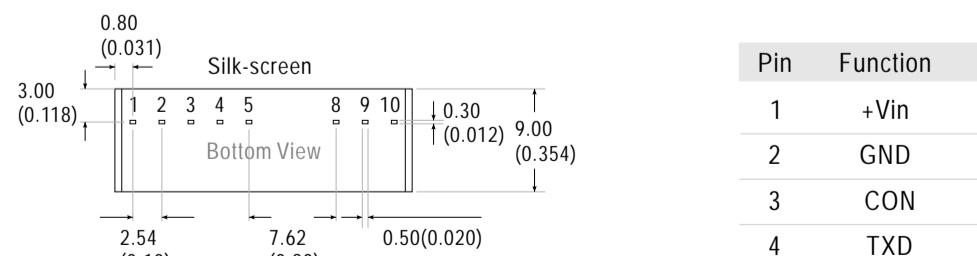
Component	Parameter
C1	110uF/16V
C2	110uF/16V
C3 C4	1uF/100V
C5	1nF/2KV
R1 R2	10　/2W
R3	1M
L1	5-10uH
L2	220mA (Common mode Choke)
TVS1 TVS2 TVS3 TVS4	5.1V
GDT1 GDT2	S30-A90X

Mechanical Dimension
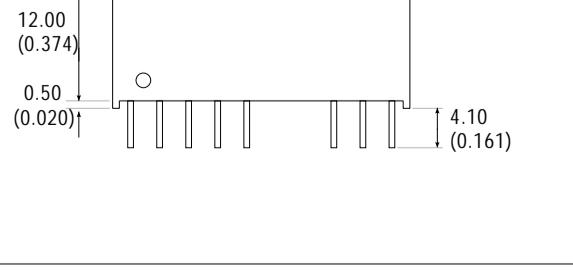
Pin	Function	Description
1	+Vin	Positive pole
2	GND	Negative pole
3	CON	Driver/Receiver transform control
4	TXD	Driver input date
5	RXD	Receiver output data
8	A	RS485　A pin
9	B	RS485　B pin
10	RGND	RS485 Bus Isolated Ground

Units　mm　inch
Tolerances　$\pm$0.25mm　$\pm$0.01inch