



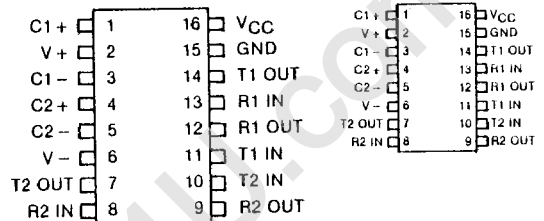
Dallas Semiconductor
+ 5V Powered Dual RS-232
Transmitter/Receiver

DS232
DS1228—16-Pin DIP
DS1228S—16-Pin SOIC

FEATURES

- Operates from a single 5V power supply
- 2 drivers and 2 receivers
- Meets all EIA RS-232-C specifications
- On-board voltage doubler
- On-board voltage inverter
- ± 30 V input levels
- ± 9 V output levels with +5 V supply
- Low power CMOS
- Pin compatible with the MAX 232
- -40°C to $+85^{\circ}\text{C}$ temperature range available
- Optional 16-pin SOIC surface mount package

PIN CONNECTIONS



PIN NAMES

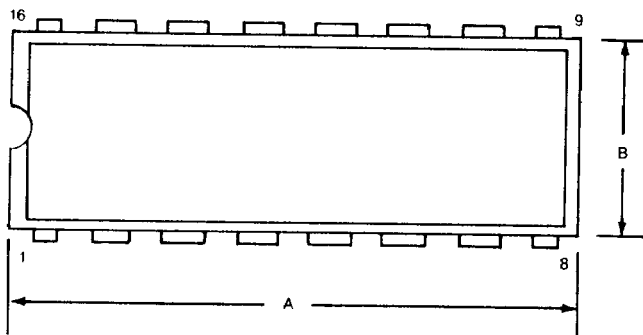
- C1 +, C1 - - Capacitor 1 Connections
- C2 +, C2 - - Capacitor 2 Connections
- V +, V - - ± 10 Volts
- T1 IN, T2 IN - Transmitter In
- T1 OUT, T2 OUT - Transmitter Out
- R1 IN, R2 IN - Receiver In
- R1 OUT, R2 OUT - Receiver Out
- VCC - +5 Volts
- GND - Ground

DESCRIPTION

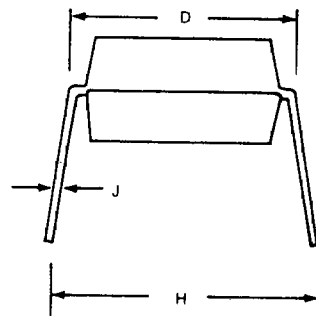
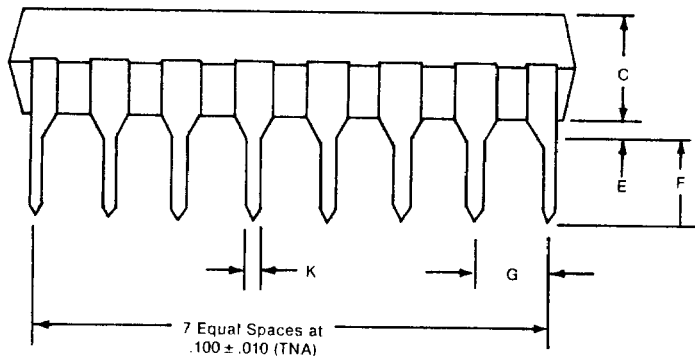
The DS232 is a dual RS-232-C Receiver/Transmitter that meets all EIA specifications while operating from a single +5 volt supply. The DS232 has two internal charge pumps. One of the charge pumps is used to generate +10 volts. The other is used to generate -10 volts. The DS232 also contains four level translators. Two of the level translators are RS-232 transmitters which convert TTL/CMOS inputs into ± 9 V RS-232 outputs. The other two level translators are RS-232 receivers which convert RS-232 inputs to 5V TTL/CMOS outputs. These receivers are capable of operating with up to ± 30 V inputs. The DS232 is suitable for all RS-232-C communications and is particularly valuable where higher voltage power supplies for RS-232 drivers are not available. The power supply section of the DS232 supplies ± 10 volts from the VCC input.

See the data sheet for the DS1229 for electrical specifications and operation.

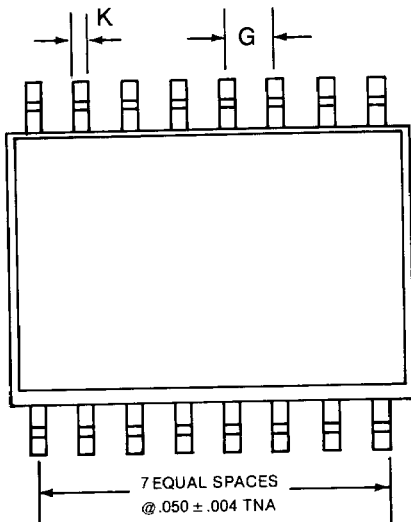
**Dual RS-232 Transmitter/Receiver
DS1228
16-Pin DIP**



DIM.	INCHES	
	MIN.	MAX.
A	.740	.780
B	.240	.260
C	.120	.140
D	.290	.310
E	.020	.030
F	.110	.130
G	.090	.110
H	.320	.370
J	.008	.012
K	.015	.021



Dual RS-232 Transmitter/Receiver
DS1228S
16-Pin SOIC



DIM.	INCHES	
	MIN.	MAX.
A	.403	.411
B	.290	.296
C	.089	.095
D	.325	.330
E	.008	.012
F	.097	.105
G	.046	.054
H	.402	.410
J	.006	.011
K	.013	.019

