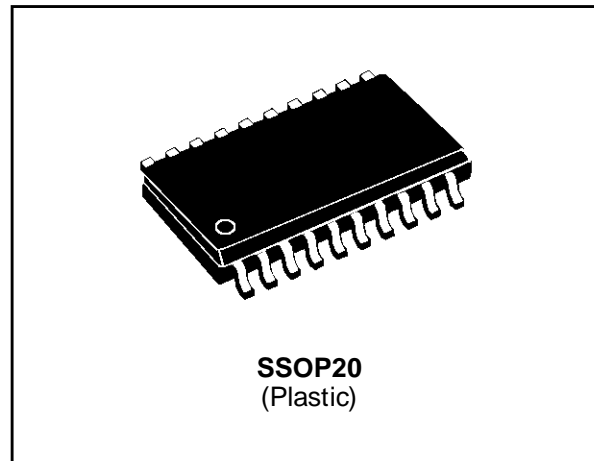


FEATURES & BENEFITS

- Network of 16 R-C-D line terminations, suited for any bus oriented system.
- Provides impedance matching, thus increasing noise immunity and minimizing distortion.
- Lowers EMI/RFI radiation.
- No DC power dissipation.
- Eliminates negative voltage : no current will change the bias of the protected device.
- Saves valuable space on the board : SSOP20 package meets the demand with present package migration to higher density.
- Several discretés integrated onto a single chip :
 - reduces comp.count and costs
 - greater reliability
- Uses the best of all termination schemes.



DESCRIPTION

With the increasing speed of data transmission, line reflections provide signal distortions and the overshoots or undershoots produced on the signal edges can cause the malfunction of the whole system.

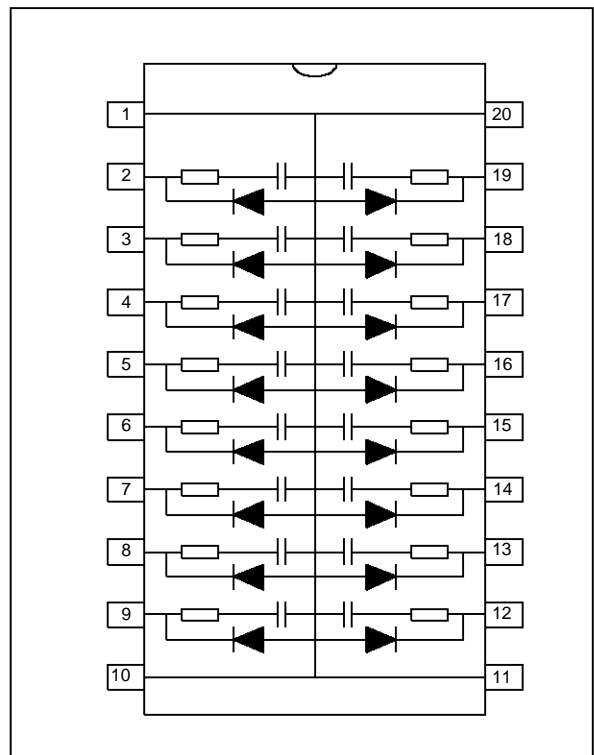
To avoid these negative effects from leading to problems, a suitable termination is required. Dedicated to bus termination, the RCD16-47B6 provides by far the best method to minimise stray emissions from PCB tracks.

The RCD16-47B6 is available in SSOP20 package, in order to meet the needs with present package migration to higher density. Furthermore, the shorter wire bonding of this package yields lower inductance, thus decreasing the ripple.

COMPLIES WITH THE FOLLOWING STANDARD :

- MIL STD 883C - Method 3015-6
- $V_P = 25kV$ $C = 100pF$ $R = 1500\Omega$
- 3 positive strikes and 3 negative strikes (F = 1 Hz)

FUNCTIONAL DIAGRAM



RCD16-47B6

ABSOLUTE MAXIMUM RATINGS ($0^{\circ}\text{C} \leq T_{\text{amb}} \leq 70^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
P	Power dissipation	500	mW
V _{OP}	Maximum operating voltage	7.5	V
V _{PP}	Maximum electrostatic discharge MIL STD 883C - METHOD 3015-6	2	kV
T _{stg} T _j	Storage temperature range Maximum junction temperature	- 55 to + 150 150	$^{\circ}\text{C}$ $^{\circ}\text{C}$

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
R _{th(j-a)}	Junction to ambient	140	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

($T_{\text{amb}} = 25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter
V _{RRM}	Maximum repetitive peak reverse voltage
R	Termination resistor value
R _i	Insulation resistance
R _c	Connection resistance
C _d	Diode capacitance
C	Termination capacitor value

RESISTOR AND CAPACITOR ELECTRICAL CHARACTERISTICS

Type	R		C		R _i	R _c
	min	max	min	max	note 1	note 2
	Ω	Ω	pF	pF	M Ω	Ω
RCD16-47B6	42	52	29	37	500	0.25

Note 1 : R_i is the resistance between any 2 pins not connected together.

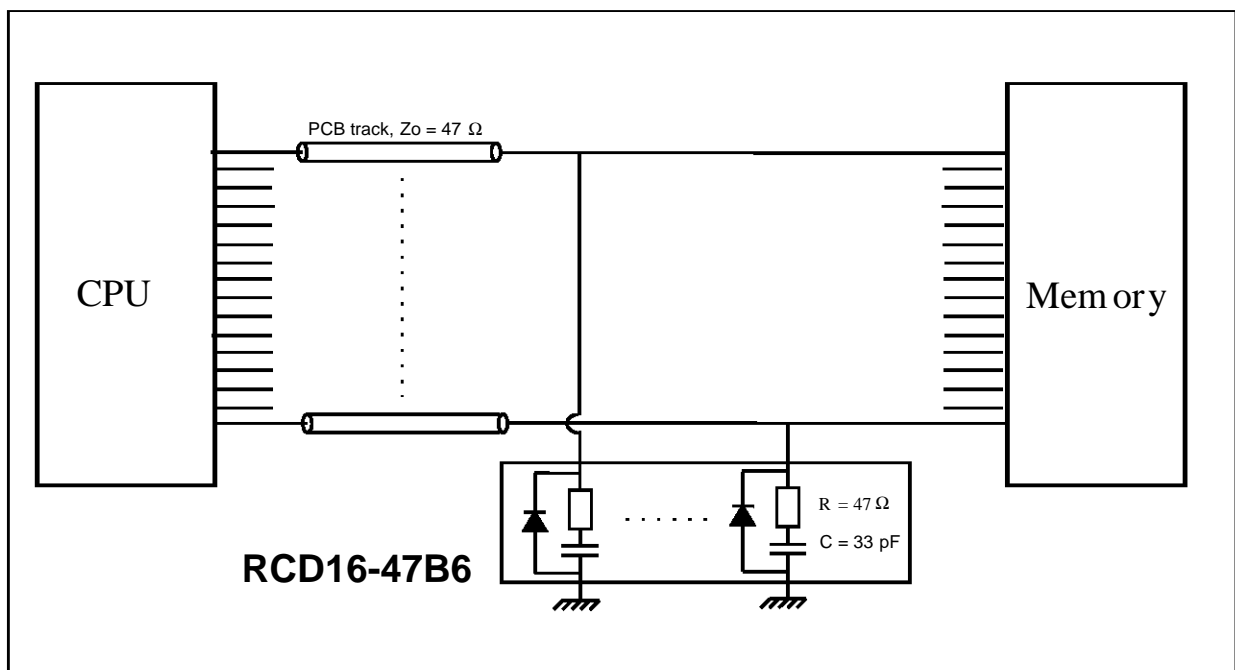
Note 2 : R_c is the resistance between pin 1 and pin 11, or between pin 10 and pin 20.

DIODE ELECTRICAL CHARACTERISTICS

Type	I_R @ $V_{RRM} = 7.5\text{ V}$		V_F		C_d
	@ 25°C	@ 70°C	@ 1mA	@ 16mA	@ $V_{bias} = 0V$
	max	max	max	max	max
	μA	μA	V	V	pF
RCD16-47B6	1	10	0.5	1	8

APPLICATION NOTE : BUS TERMINATION

RCD16-47B6 in a typical application



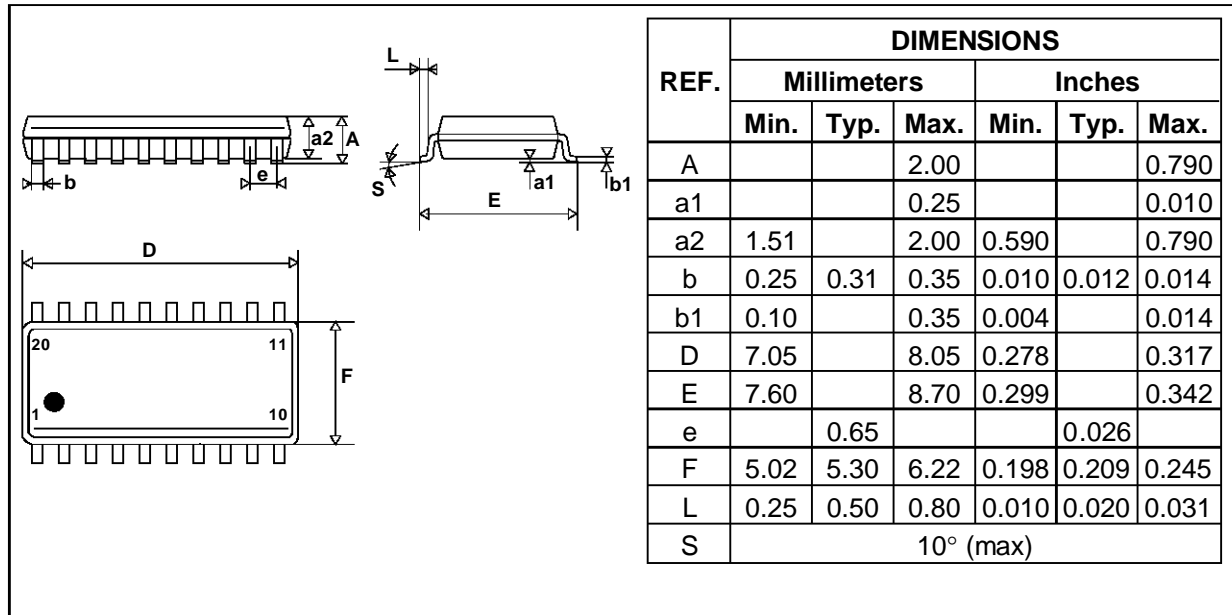
The RCD resistance provides the path termination for PCB track, thus resulting in low reflection phenomena.

The capacitance of 33 pF blocks DC currents while acting as a short circuit during signal transitions, and holds the bus at the last logic level. It reduces power consumption and avoids excessive current.

The small Schottky diode clamps the negative remaining undershoot which can result from impedance mismatch. It prevents the logic signal from rising above the TTL '0' threshold after a falling edge.

RCD16-47B6

PACKAGE MECHANICAL DATA SSOP20 (Plastic)



MARKING : RCD16-47B6

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