

TVW DF14 06 AD0 Engineering Specification

1. Scope

TVW DF14 06 AD0's are TVS arrays designed to protect power/control lines and high-speed signal lines from overvoltage hazard of Electrostatic Discharge (ESD), Electrical Fast Transients (EFT) and Lightning. These interfaces can be used for high definition multi-media interface (HDMI) at 1.65 Gb/s and up to 3.2 Gb/s, digital visual interface (DVI), USB3.0 power and data lines protection, notebook and personal computers, monitors and flat panel displays, IEEE 1394 Firewire Ports, etc.

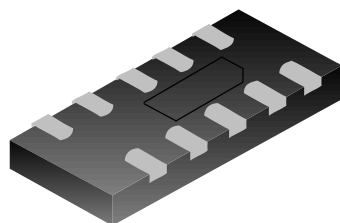
TVW DF14 06 AD0 incorporates a pair of rail-to-rail diodes with low capacitance for each of four I/O channels. Additional Zener diode is employed to minimize the influence of supply voltage. The ESD protection of TVS arrays meets the immunity standard of IEC 61000-4-2, level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).

2. Explanation of Part Number

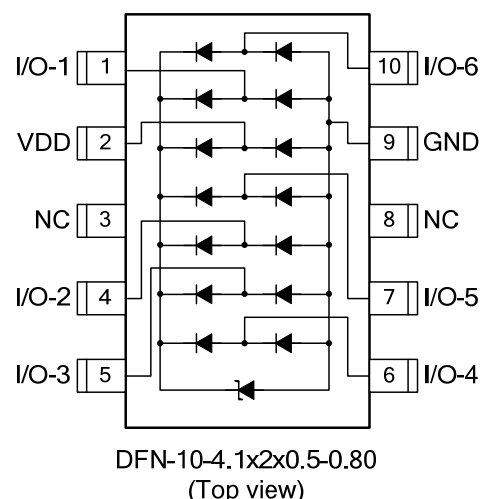
<u>TV</u>	<u>W</u>	<u>DF14</u>	<u>06</u>	<u>AD0</u>
(1)	(2)	(3)	(4)	(5)

- (1) Product Type : TV=TVS Diode
- (2) Capacitance Code : W=Ultra Low Capacitance
- (3) Package Size Code
- (4) Channel Code : 06=6 Channels
- (5) Specialized Specification Code

3. Circuit Diagram /Pin Configuration



DFN-10-4.1x2x0.5-0.80



4. Specifications

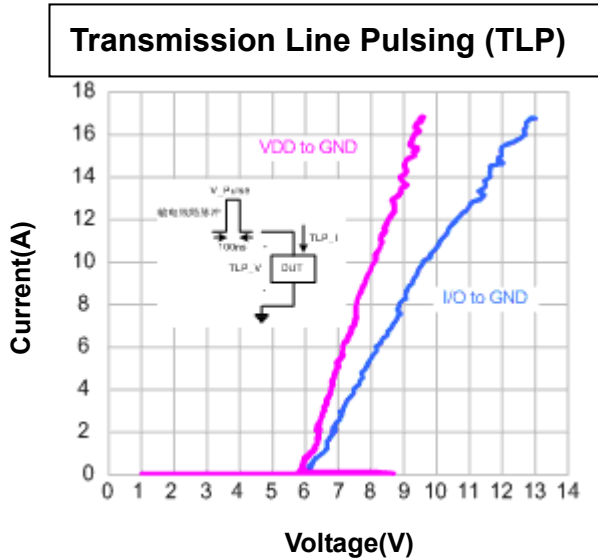
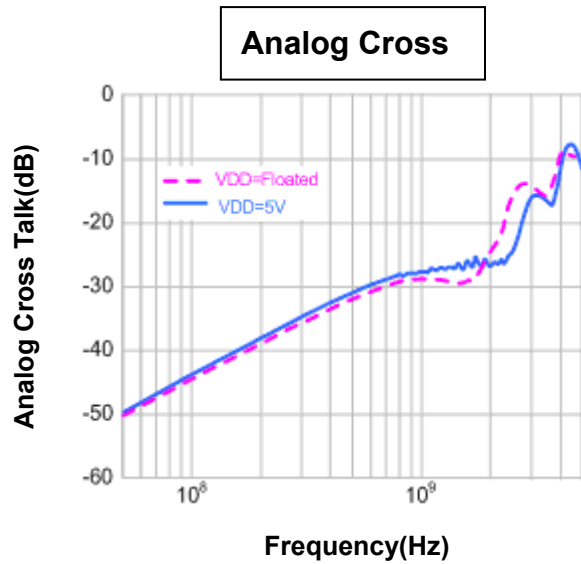
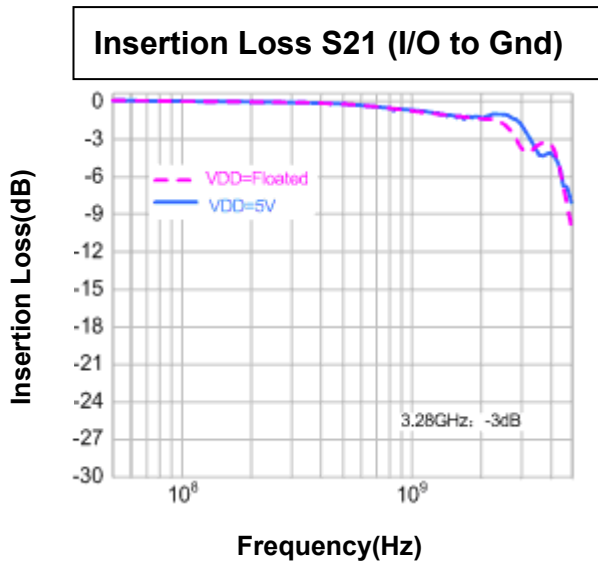
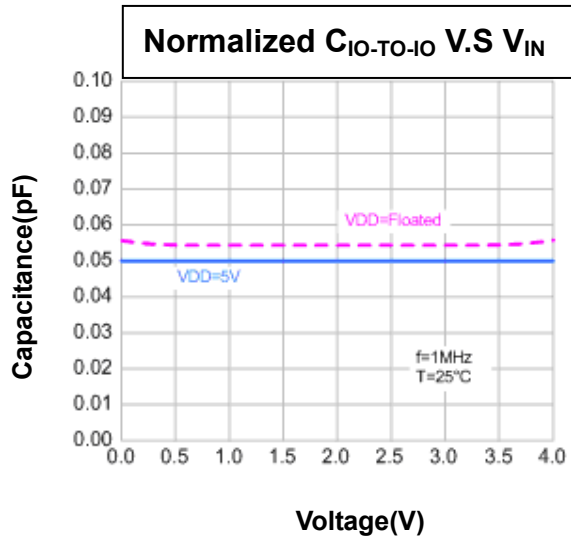
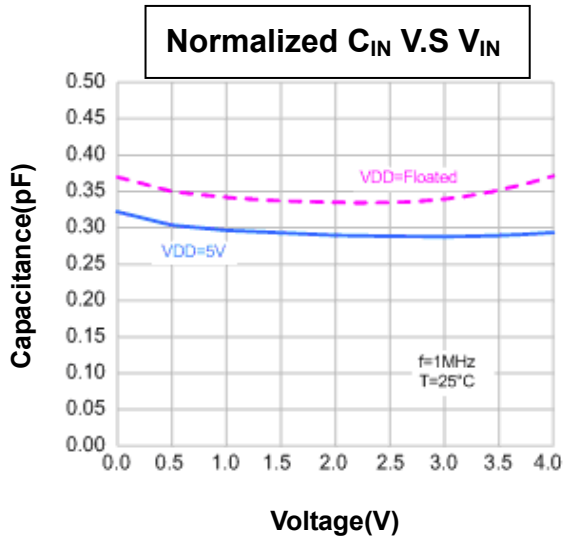
4.1. ABSOLUTE MAXIMUM RATINGS

PARAMETER	PARAMETER	RATING	UNITS
Peak Pulse power ($t_p = 8/20\mu s$)	P_{pp}	150	W
Peak Pulse current ($t_p = 8/20\mu s$)	I_{pp}	5	A
Operating Supply Voltage (VDD-GND)	V_{DC}	5	V
ESD per IEC 61000-4-2 (Air) (I/O pins)	V_{ESD_IO}	15	kV
ESD per IEC 61000-4-2 (Contact) (I/O pins)		8	
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	°C
Operating Temperature	T_{OP}	-55 to +125	°C
Storage Temperature	T_{STO}	-55 to +150	°C

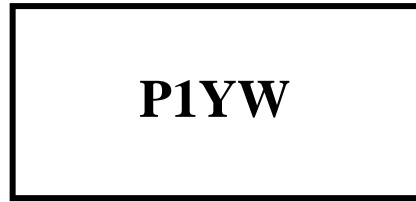
4.2. ELECTRICAL CHARACTERISTICS (T=25 °C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Reverse Stand-Off Voltage	V_{RWM}	Any I/O pin to Ground			5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM} = 5V$, Any I/O pin to Ground			1	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV} = 1mA$, Any I/O pin to Ground	6			V
ESD Clamping Voltage -I/O	V_{C1}	$I_{PP}=1A$, $t_p=8/20\mu S$, Any I/O pin to Ground		8.5	12	V
Reverse ESD Clamping Voltage -I/O	V_{C2}	$I_{PP}=1A$, $t_p=8/20\mu S$, Any I/O pin to Ground		1.8		V
Channel to Channel Input Capacitance	C_{J1}	$V_R=0V$, $f=1MHz$		0.2	0.25	pF
Channel I/O to GND Capacitance	C_{J2}	$V_R=0V$, $f=1MHz$, Any I/O pin to Ground			0.4	pF

4.3. TYPICAL CHARACTERISTICS



5. Marking code



P1 : Device Code

YW : Date Code (Y = year , W = week)

6. Mechanical Details

