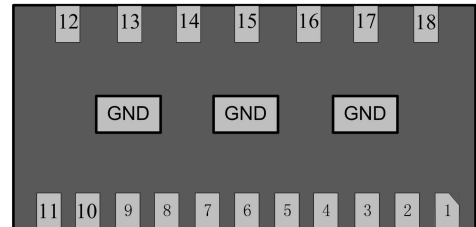




Features

- Integrated 7 Pairs (14 Lines) High Speed Data
- Single Connect, Flow through Routing
- Low Capacitance (0.3 pF Typical, I/O to I/O)
- UL Flammability Rating of 94 V-0
- This is a Pb-Free



IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)

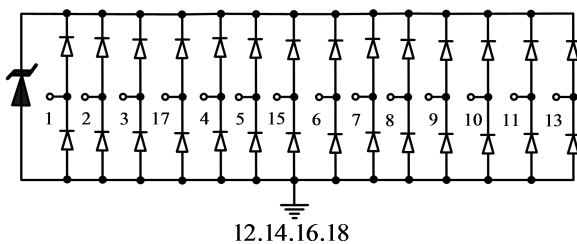
Mechanical Characteristics

- DFN-18L (Pb-Free)
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- V-by-One HS
- RoHS Compliant

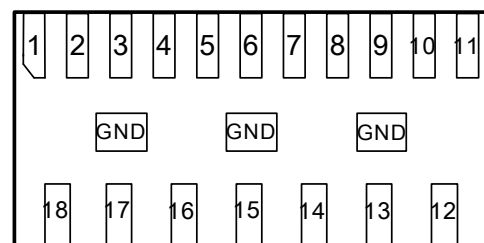
Applications

- Thunderbolt (Light Peak)
- USB 3.0
- HDMI
- Display Port
- LVDS

Circuit Diagram



Schematic & PIN Configuration

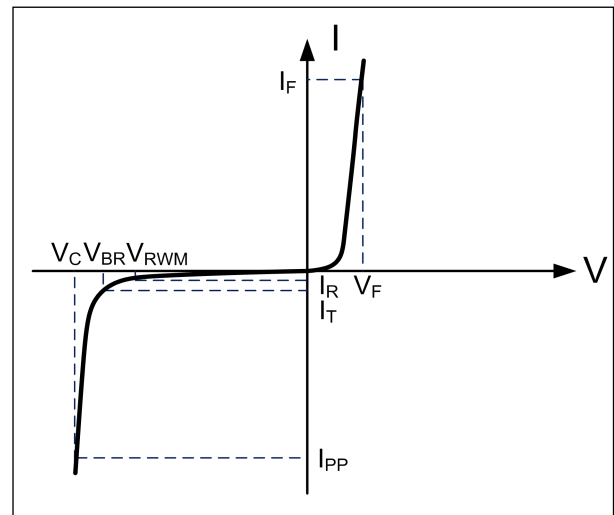


Pin	Identificaion
1,2,3,4,5,6,7,8,9,10,11,13,15,17	I/O
12,14,16,18	Ground

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	100	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{pp}	5	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	+/-15	kV
ESD per IEC 61000-4-2(contact)		+/-8	
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F

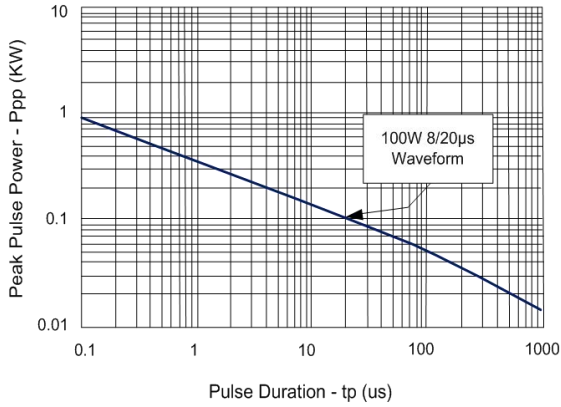


Electrical Characteristics

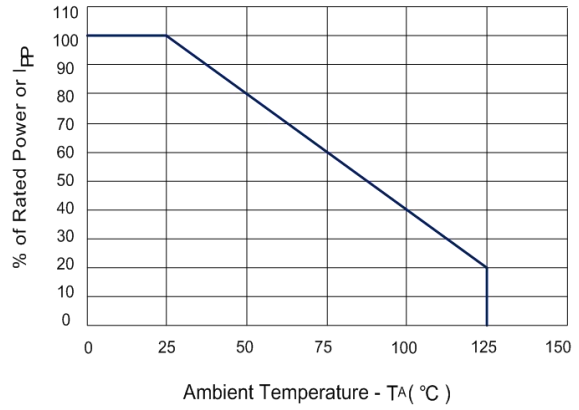
DW05-14R2P-E						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25^\circ C$			1.0	μA
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$		10		V
Clamping Voltage	V_C	$I_{PP}=5A, t_p=8/20\mu s$			15	V
Junction Capacitance	C_j	Between I/O pins and Ground $V_R=0V, f=1MHz$			0.8	pF
		Between I/O pins $V_R=0V, f=1MHz$		0.3	0.4	pF

Typical Characteristics

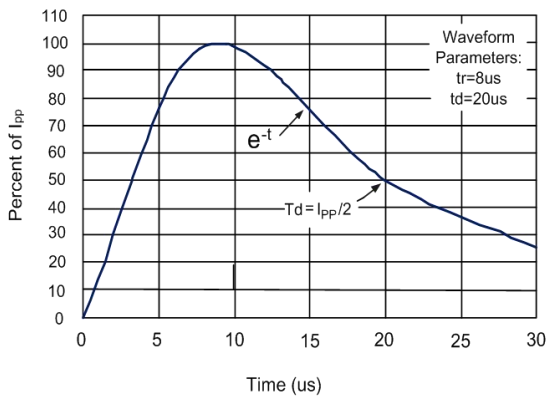
Non-Repetitive Peak Pulse Power vs. Pulse Time



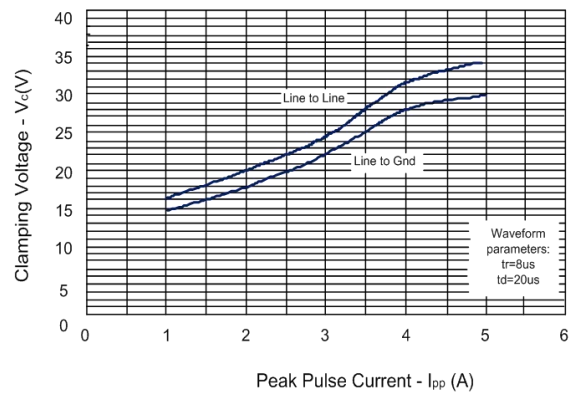
Power Derating curve



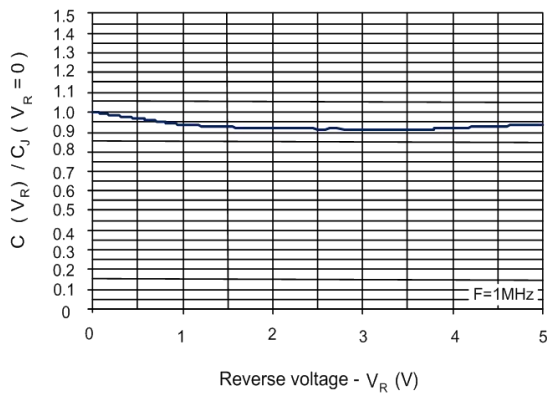
Pulse Waveform



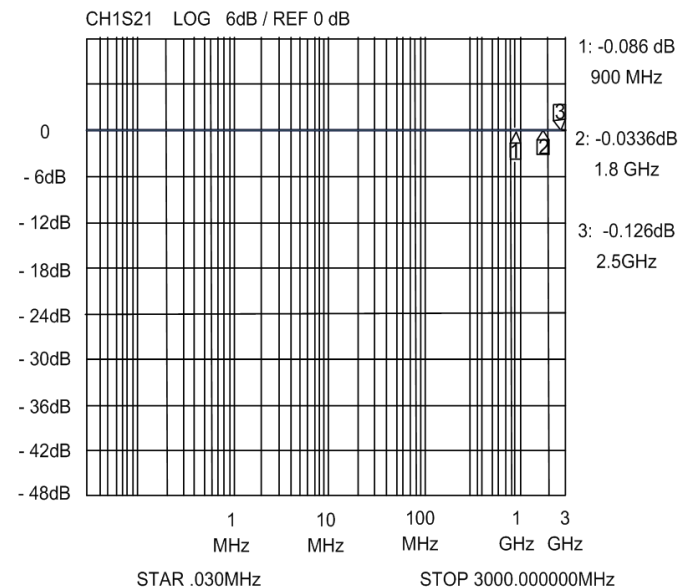
Clamping Voltage vs. Peak Pulse Current



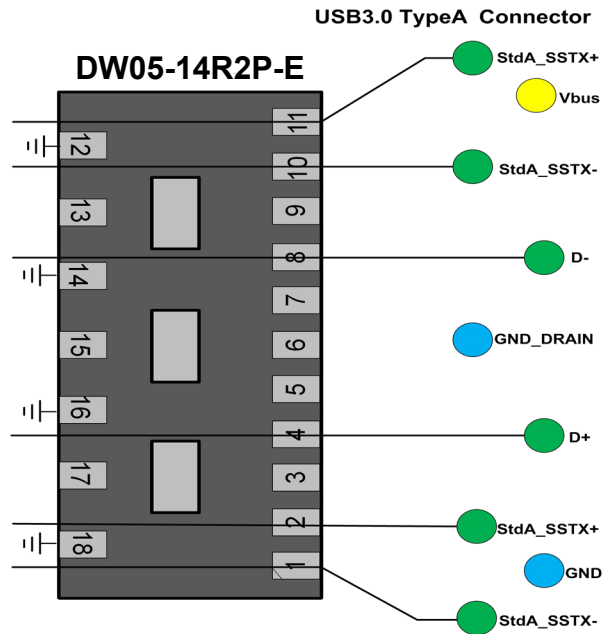
Normalized Capacitance vs. Reverse Voltage



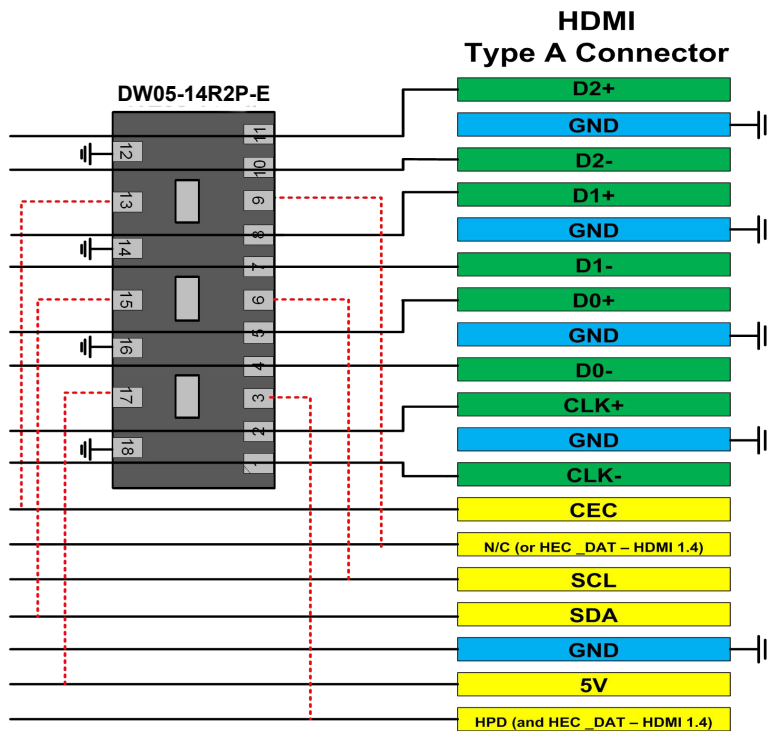
Insertion Loss S21 - I/O to GND



Application Information

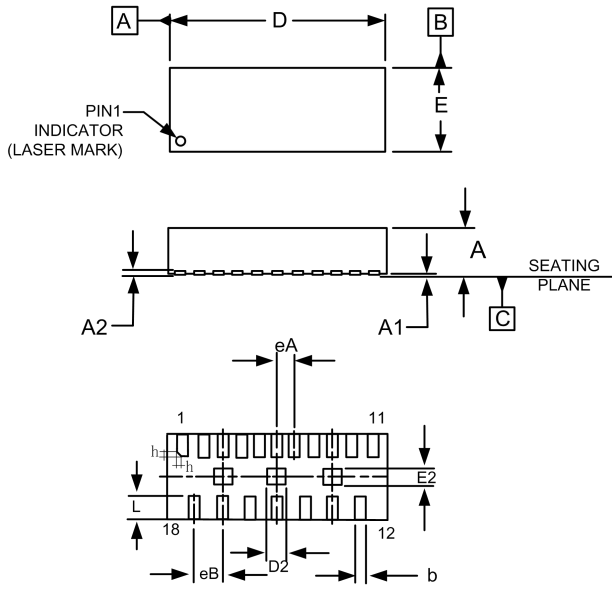
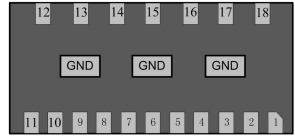
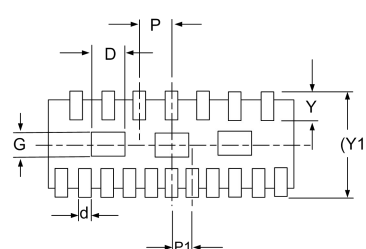


USB3.0 Layout Diagram



HDMI Layout Diagram

Outline Drawing –DFN-18L

 <p>NOTES: 1.CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).</p>	 <p>DFN5.5x1.5-18L</p> <table border="1"> <thead> <tr> <th colspan="4">DIMENSIONS</th> </tr> <tr> <th rowspan="2">DIM</th> <th colspan="3">MILLIMETERS</th> </tr> <tr> <th>MIN</th> <th>NOM</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.45</td> <td>0.50</td> <td>0.55</td> </tr> <tr> <td>A1</td> <td>---</td> <td>0.02</td> <td>0.05</td> </tr> <tr> <td>A2</td> <td>0.10</td> <td>0.15</td> <td>0.20</td> </tr> <tr> <td>b</td> <td>0.15</td> <td>0.20</td> <td>0.25</td> </tr> <tr> <td>D</td> <td>5.45</td> <td>5.50</td> <td>5.55</td> </tr> <tr> <td>D2</td> <td>0.45</td> <td>0.50</td> <td>0.55</td> </tr> <tr> <td>eA</td> <td colspan="3">0.50BSC</td> </tr> <tr> <td>eB</td> <td colspan="3">0.75BSC</td> </tr> <tr> <td>E</td> <td>1.45</td> <td>1.50</td> <td>1.55</td> </tr> <tr> <td>E2</td> <td>0.35</td> <td>0.40</td> <td>0.45</td> </tr> <tr> <td>L</td> <td>0.20</td> <td>0.30</td> <td>0.40</td> </tr> <tr> <td>h</td> <td>0.05</td> <td>0.10</td> <td>0.15</td> </tr> </tbody> </table>	DIMENSIONS				DIM	MILLIMETERS			MIN	NOM	MAX	A	0.45	0.50	0.55	A1	---	0.02	0.05	A2	0.10	0.15	0.20	b	0.15	0.20	0.25	D	5.45	5.50	5.55	D2	0.45	0.50	0.55	eA	0.50BSC			eB	0.75BSC			E	1.45	1.50	1.55	E2	0.35	0.40	0.45	L	0.20	0.30	0.40	h	0.05	0.10	0.15
DIMENSIONS																																																												
DIM	MILLIMETERS																																																											
	MIN	NOM	MAX																																																									
A	0.45	0.50	0.55																																																									
A1	---	0.02	0.05																																																									
A2	0.10	0.15	0.20																																																									
b	0.15	0.20	0.25																																																									
D	5.45	5.50	5.55																																																									
D2	0.45	0.50	0.55																																																									
eA	0.50BSC																																																											
eB	0.75BSC																																																											
E	1.45	1.50	1.55																																																									
E2	0.35	0.40	0.45																																																									
L	0.20	0.30	0.40																																																									
h	0.05	0.10	0.15																																																									
 <table border="1"> <thead> <tr> <th colspan="3">DIMENSIONS</th> </tr> <tr> <th>DIM</th> <th>INCHES</th> <th>MILLIMETERS</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>.020</td> <td>0.50</td> </tr> <tr> <td>P</td> <td>.030</td> <td>0.75</td> </tr> <tr> <td>P1</td> <td>.020</td> <td>0.50</td> </tr> <tr> <td>d</td> <td>.010</td> <td>0.30</td> </tr> <tr> <td>D</td> <td>.028</td> <td>0.60</td> </tr> <tr> <td>Y</td> <td>.020</td> <td>0.50</td> </tr> <tr> <td>Y1</td> <td>.082</td> <td>1.80</td> </tr> </tbody> </table>	DIMENSIONS			DIM	INCHES	MILLIMETERS	G	.020	0.50	P	.030	0.75	P1	.020	0.50	d	.010	0.30	D	.028	0.60	Y	.020	0.50	Y1	.082	1.80	<p>NOTES: 1.CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES). 2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.</p>																																
DIMENSIONS																																																												
DIM	INCHES	MILLIMETERS																																																										
G	.020	0.50																																																										
P	.030	0.75																																																										
P1	.020	0.50																																																										
d	.010	0.30																																																										
D	.028	0.60																																																										
Y	.020	0.50																																																										
Y1	.082	1.80																																																										

Marking Codes

Part Number	DW05-14R2P-E	Marking Code	DW05-14R2P-E
-------------	--------------	--------------	--------------

Package Information

Qty: 3k/Reel