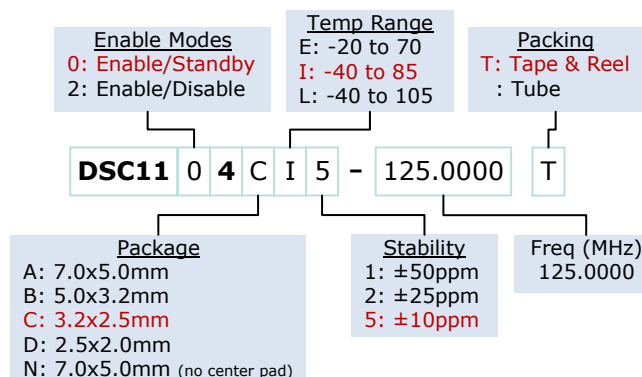


Absolute Maximum Ratings

Item	Min	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
Input Voltage	-0.3	$V_{DD}+0.3$	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40sec max.
ESD	-		V	
HBM		4000		
MM		400		
CDM		1500		

Ordering Code



Note: 1000+ years of data retention on internal memory

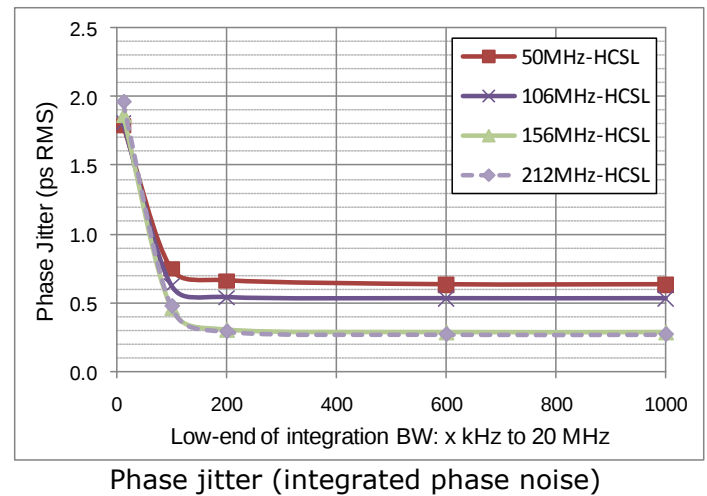
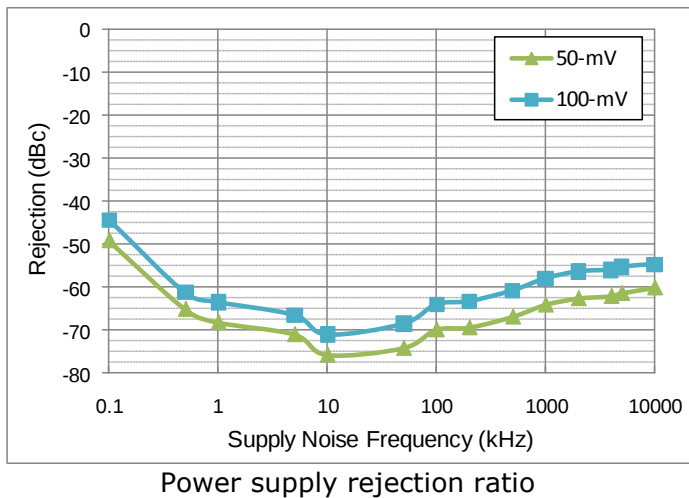
Specifications

Parameter		Condition	Min.	Typ.	Max.	Unit
Supply Voltage ¹	V_{DD}		2.25		3.6	V
Supply Current	I_{DD}	EN pin low – outputs are disabled DSC1104 DSC1124		20	0.095 22	mA
Frequency Stability	Δf	Includes frequency variations due to initial tolerance, temp. and power supply voltage			±10 ±25 ±50	ppm
Aging	Δf	1 year @25°C			±5	ppm
Startup Time ²	t_{SU}	T=25°C			5	ms
Input Logic Levels						
Input logic high	V_{IH}		0.75x V_{DD}		-	V
Input logic low	V_{IL}		-		0.25x V_{DD}	
Output Disable Time ³	t_{DA}				5	ns
Output Enable Time	t_{EN}	DSC1104 DSC1124			5 20	ms ns
Enable Pull-Up Resistor ⁴		Pull-up resistor exist		40		kΩ
HCSL Outputs						
Supply Current	I_{DD}	Output Enabled, $R_L=50\Omega$		40	42	mA
Output Logic Levels						
Output logic high	V_{OH}	$R_L=50\Omega$	0.725		-	V
Output logic low	V_{OL}		-		0.1	
Pk to Pk Output Swing		Single-Ended		750		mV
Output Transition time ³						
Rise Time	t_R	20% to 80% $R_L=50\Omega$, $C_L=2pF$	200		400	ps
Fall Time	t_F					
Frequency	f_0	Single Frequency	2.3		460	MHz
Output Duty Cycle	SYM	Differential	48		52	%
Period Jitter	J_{PER}			2.5		ps _{RMS}
Integrated Phase Noise	J_{PH}	200kHz to 20MHz @156.25MHz 100kHz to 20MHz @156.25MHz 12kHz to 20MHz @156.25MHz		0.25 0.37 1.7	2	ps _{RMS}

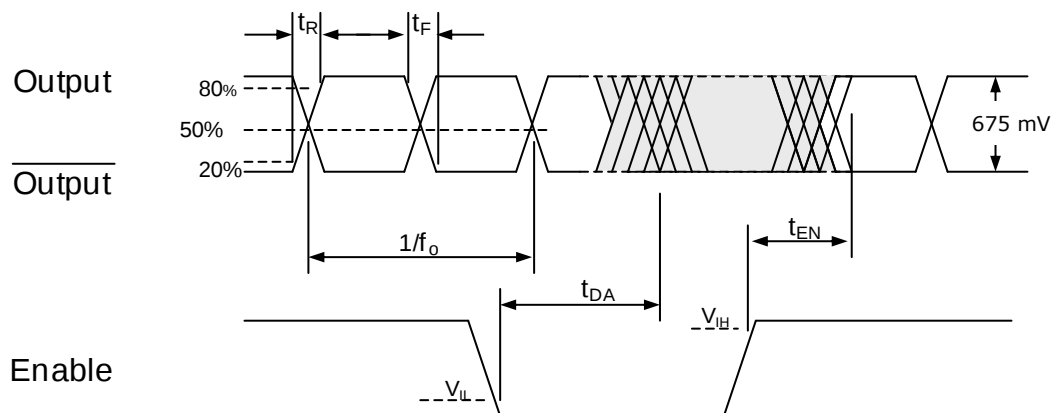
Notes:

- Pin 6 V_{DD} should be filtered with 0.1uF capacitor.
- t_{SU} is time to 100ppm of output frequency after V_{DD} is applied and outputs are enabled.
- Output Waveform and Test Circuit figures below define the parameters.
- Output is enabled if pad is floated or not connected.

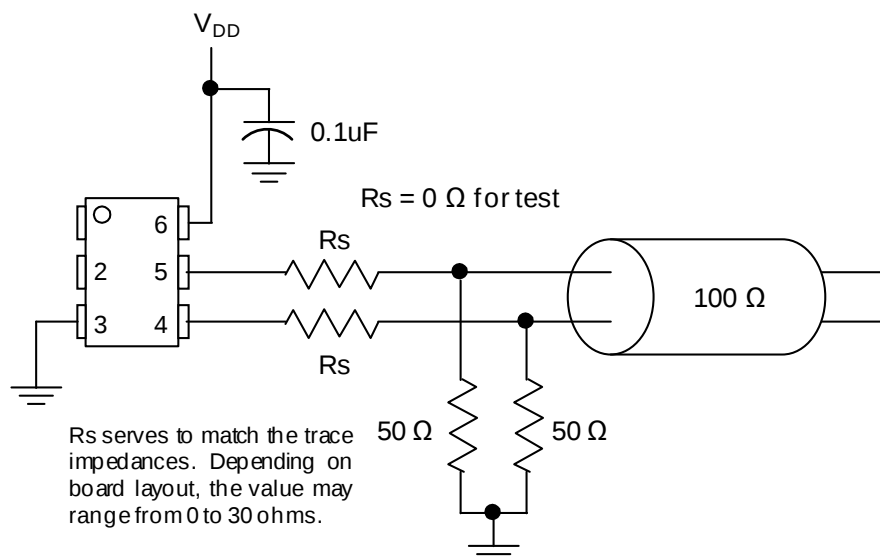
Nominal Performance Parameters (Unless specified otherwise: T=25° C, V_{DD}=3.3 V)



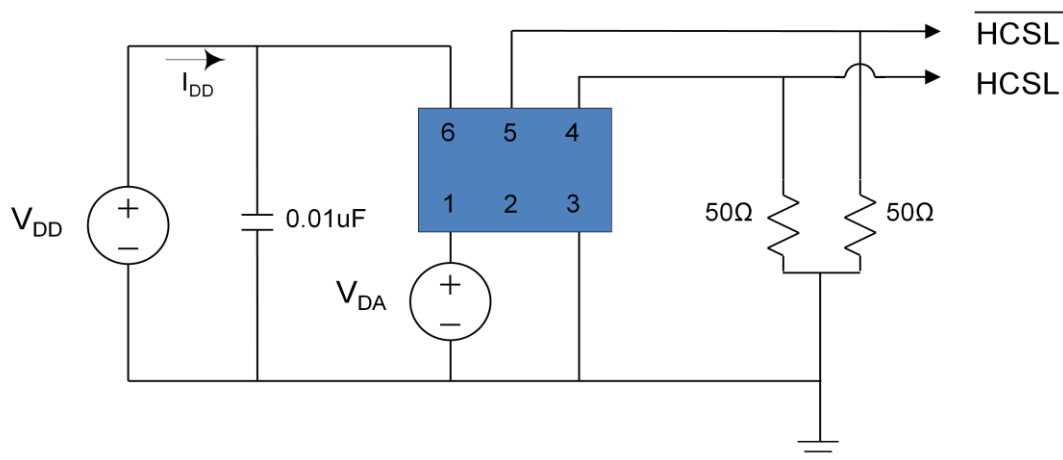
Output Waveform



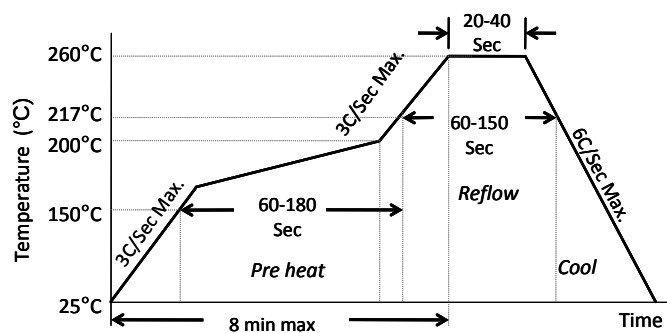
Typical Termination Scheme



Test Circuit



Solder Reflow Profile



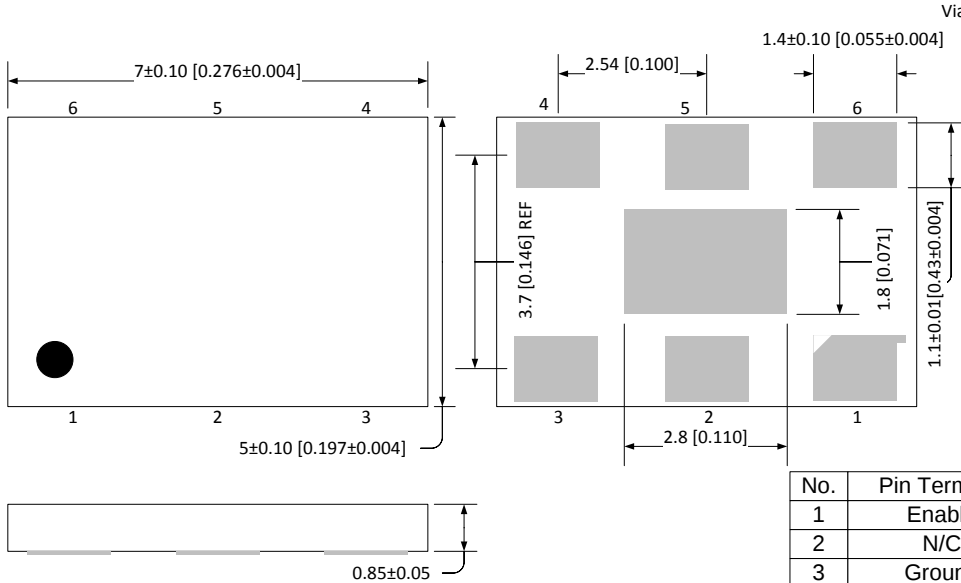
MSL 1 @ 260°C refer to JSTD-020C	
Ramp-Up Rate (200°C to Peak Temp)	3°C/Sec Max.
Preheat Time 150°C to 200°C	60-180 Sec
Time maintained above 217°C	60-150 Sec
Peak Temperature	255-260°C
Time within 5°C of actual Peak	20-40 Sec
Ramp-Down Rate	6°C/Sec Max.
Time 25°C to Peak Temperature	8 min Max.

Package Dimensions

7.0 x 5.0 mm Plastic Package

EXTERNAL DIMENSIONS

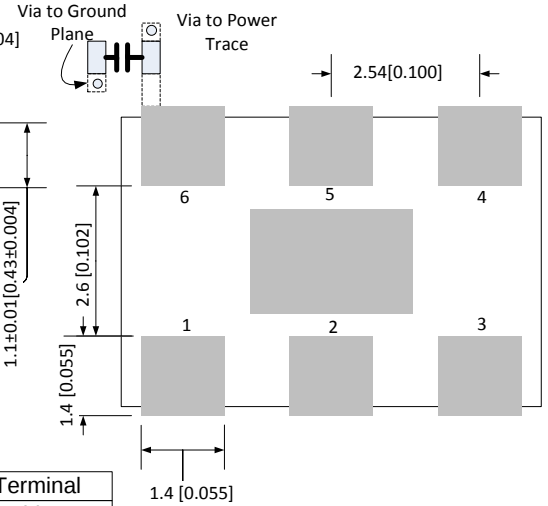
Units: mm [inches]



No.	Pin Terminal
1	Enable
2	N/C
3	Ground
4	OUT
5	OUT-
6	VDD
PAD	TIE TO GND

RECOMMENDED SOLDER PAD LAYOUT

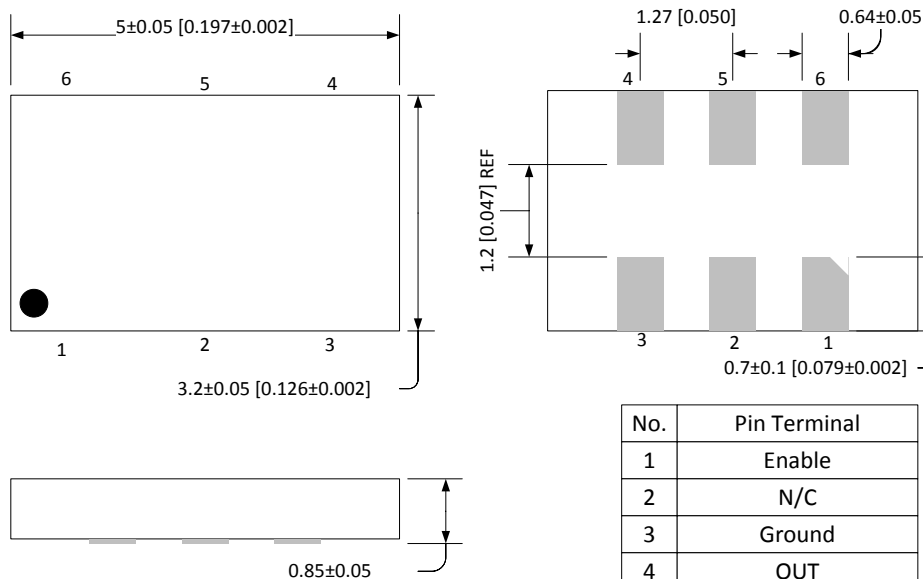
Units: mm [inches]



5.0 x 3.2 mm Plastic Package

EXTERNAL DIMENSIONS

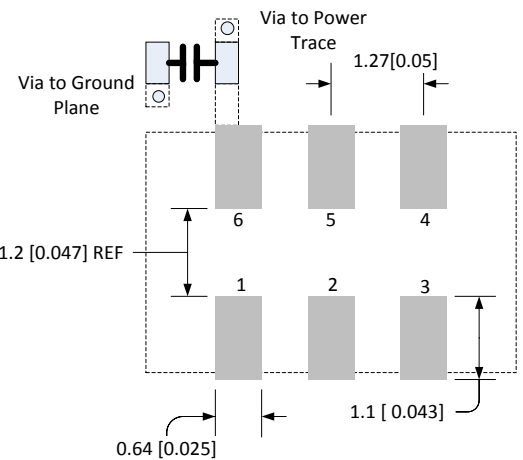
Units: mm [inches]



No.	Pin Terminal
1	Enable
2	N/C
3	Ground
4	OUT
5	OUT-
6	VDD

RECOMMENDED SOLDER PAD LAYOUT

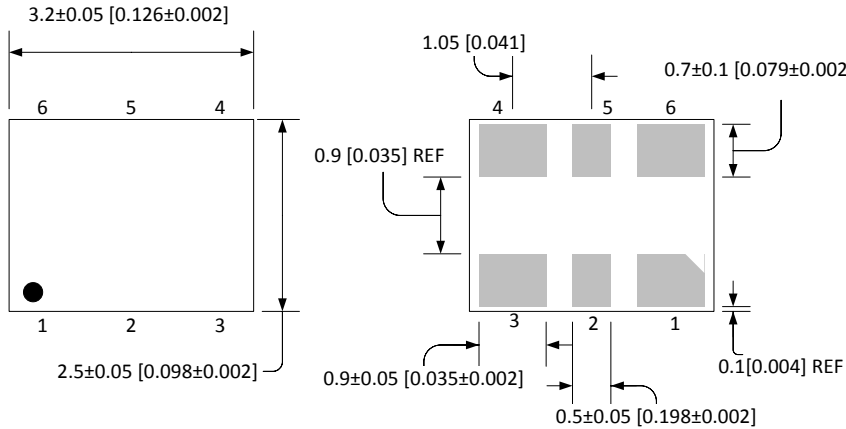
Units: mm [inches]



3.2 x 2.5 mm Plastic Package

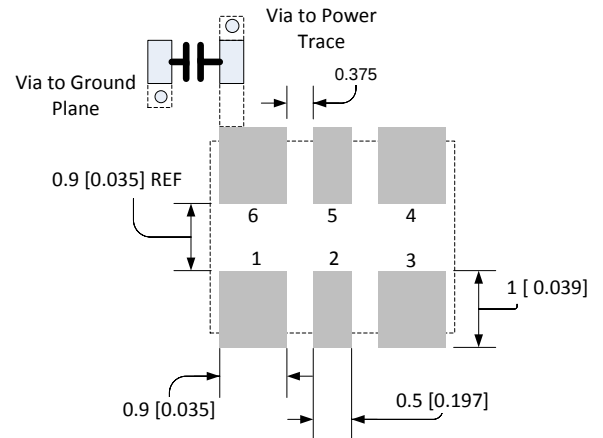
EXTERNAL DIMENSIONS

Units: mm [inches]



RECOMMENDED SOLDER PAD LAYOUT

Units: mm [inches]

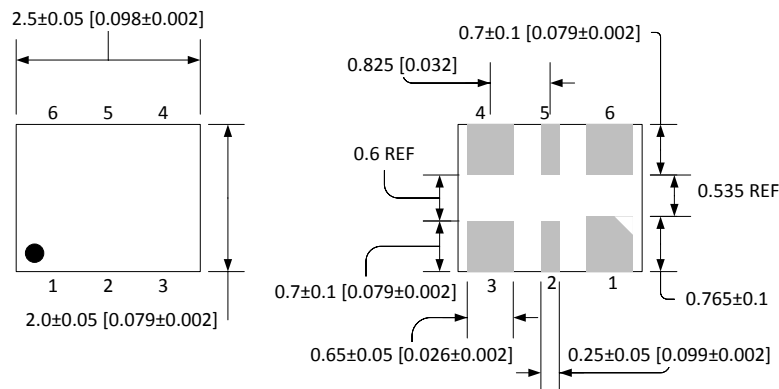


No.	Pin Terminal
1	Enable
2	N/C
3	Ground
4	OUT
5	OUT-
6	VDD

2.5 x 2.0 mm Plastic Package

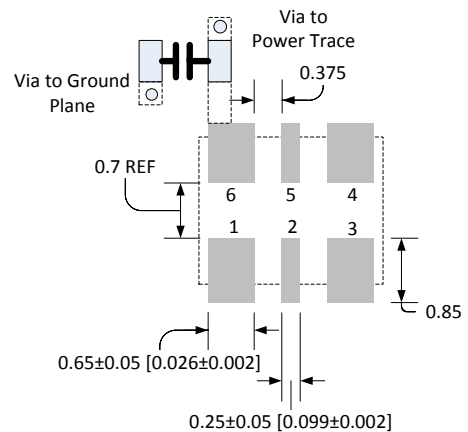
EXTERNAL DIMENSIONS

Units: mm [inches]



RECOMMENDED SOLDER PAD LAYOUT

Units: mm [inches]

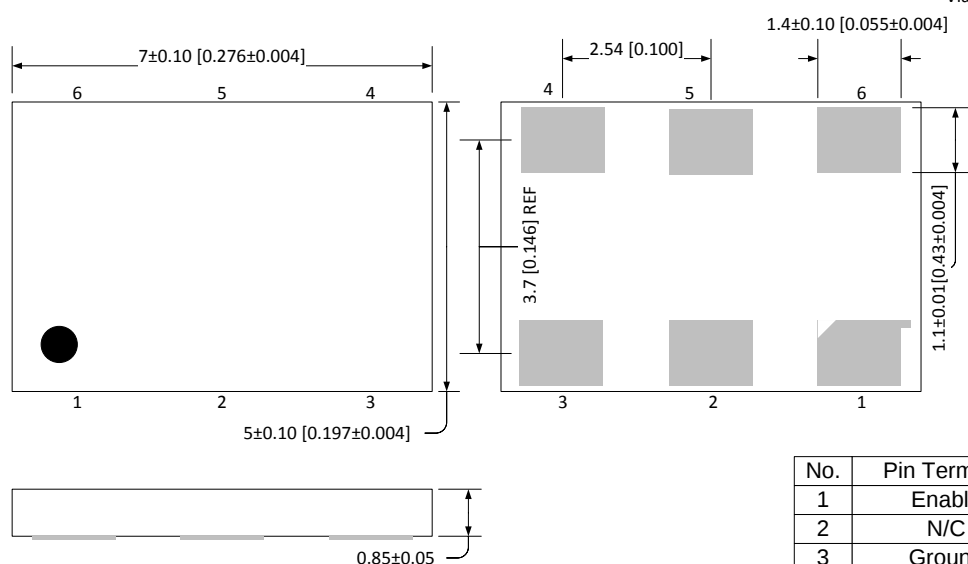


No.	Pin Terminal
1	Enable
2	N/C
3	Ground
4	OUT
5	OUT-
6	VDD

7.0 x 5.0 mm Plastic Package

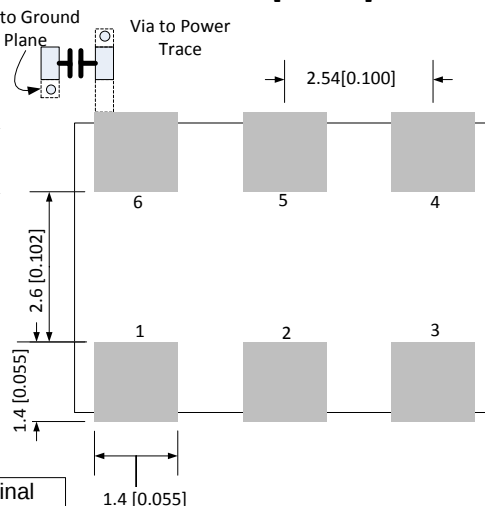
EXTERNAL DIMENSIONS

Units: mm [inches]



RECOMMENDED SOLDER PAD LAYOUT

Units: mm [inches]



No.	Pin Terminal
1	Enable
2	N/C
3	Ground
4	OUT
5	OUT-
6	VDD

Disclaimer:

Discera makes no warranty of any kind, express or implied, with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Discera reserves the right to make changes without further notice to materials described herein. Discera does not assume any liability arising from the application or use of any product or circuit described herein. Discera does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Discera's product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Discera against all charges.