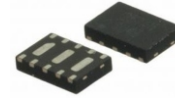


ACPDA13C3V3-HF

RoHS Device

Halogen Free



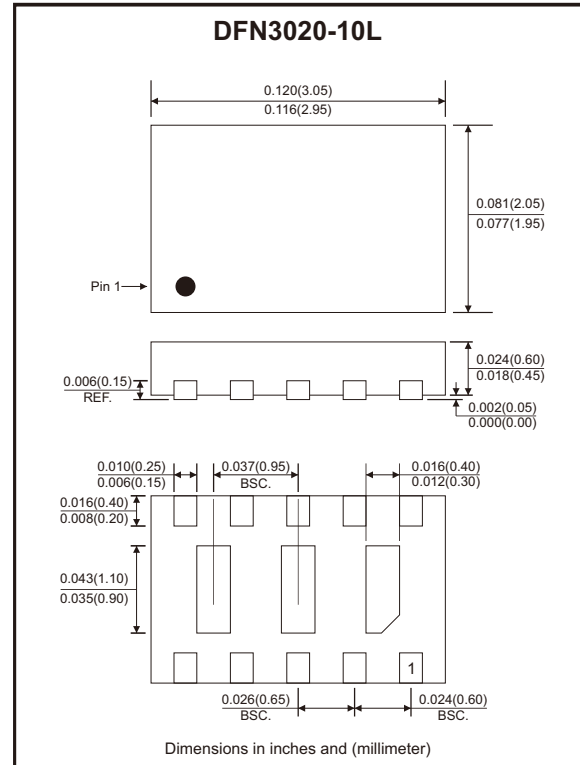
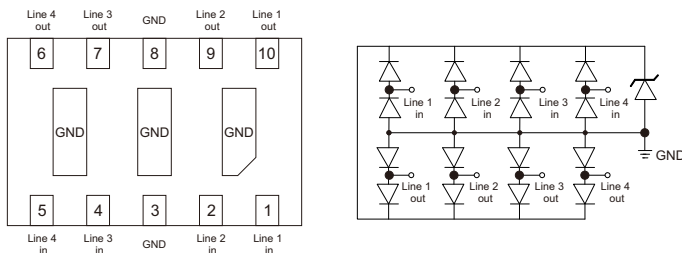
Features

- Protects eight I/O lines.
- Low capacitance.
- Low leakage current.
- Response time is < 1ns.
- Low capacitance for high-speed interfaces.
- No insertion loss to 2.0GHz.
- Solid-state silicon avalanche technology.
- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air/contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- AEC-Q101 Qualified.

Mechanical data

- Case: DFN3020-10L package, molded plastic.
- Terminal: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram



Maximum Rating (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu\text{s}$	P_{PP}	1000	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	I_{PP}	40	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	± 30	kV
Lead soldering temperature		T_L	260 (10 sec)	$^\circ\text{C}$
Operating junction temperature range		T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse working voltage	Any I/O to GND	V_{RWM}			3.3	V
Snap-back voltage	$I_T = 50\text{mA}$, any I/O to GND	V_{SB}	2.8			V
Punch-through voltage	$I_{PT} = 2\text{mA}$, any I/O to GND	V_{PT}	3.5			V
Reverse leakage current	$V_{RWM} = 3.3\text{V}$, any I/O to GND	I_R			0.5	μA
Clamping voltage	$I_{PP} = 1\text{A}$, $T_P = 8/20\mu\text{s}$, any I/O to GND	V_C		5.2		V
	$I_{PP} = 20\text{A}$, $T_P = 8/20\mu\text{s}$, any I/O to GND	V_C			15	
	$I_{PP} = 30\text{A}$, $T_P = 8/20\mu\text{s}$, line to line, two I/O Pin connected together on each line	V_C			25	
Peak pulse current	$T_P = 8/20\mu\text{s}$, two I/O Pin connected together on each line	I_{PP}			40	A
Junction capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$, between I/O pins	C_J		1.3	2.5	pF
	$V_R = 0\text{V}$, $f = 1\text{MHz}$, any I/O to GND	C_J		2.4	5	

Typical Rating and Characteristic Curves (ACPDA13C3V3-HF)

Fig.1 - Pulse Waveform

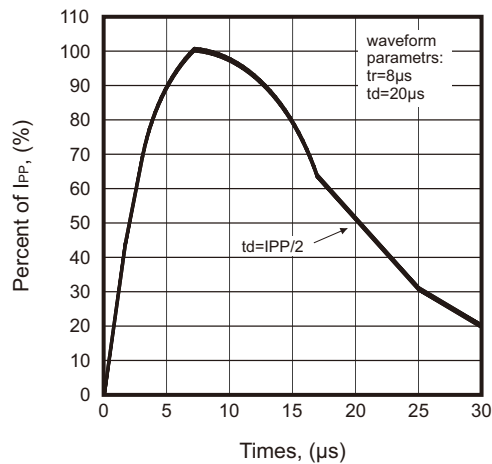


Fig.2 - Non-Repetitive Peak Pulse Power vs. Pulse Time

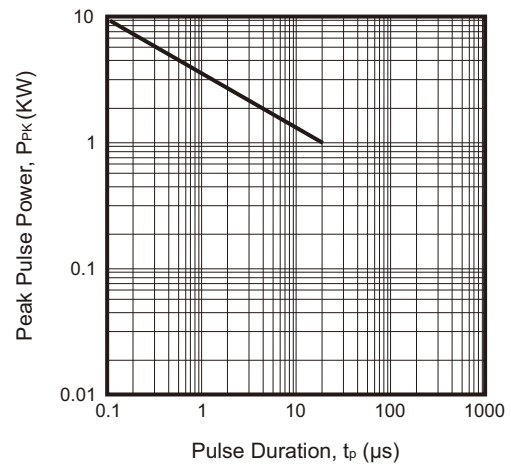


Fig.3 - Pulse Derating Curve

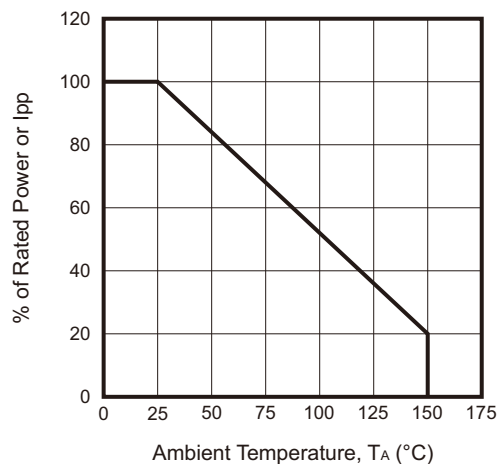
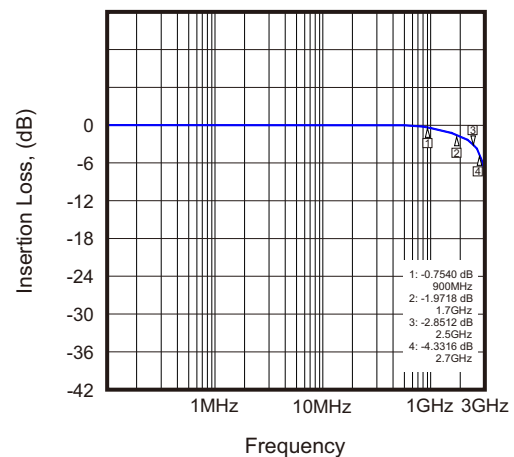
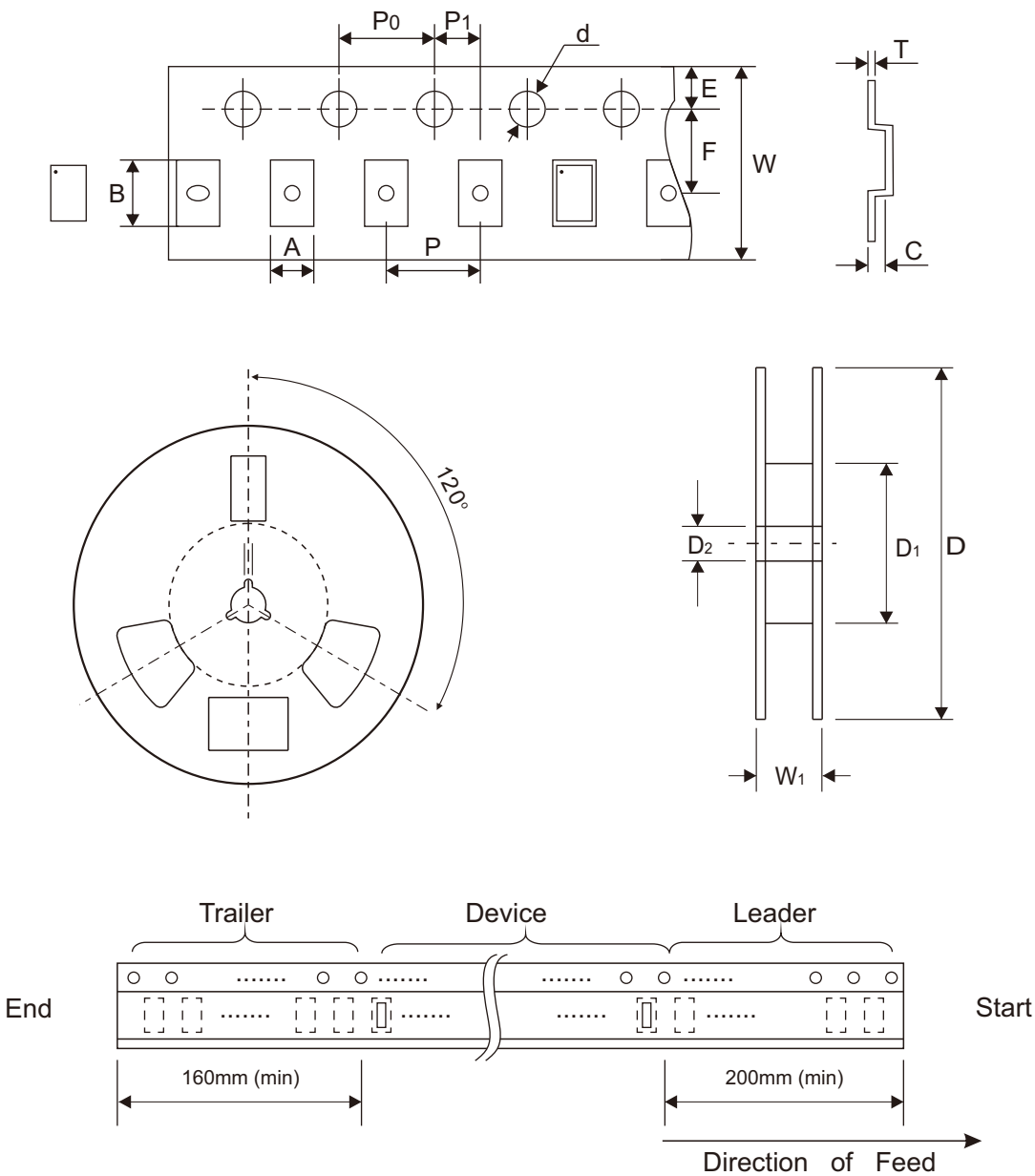


Fig.4 - Insertion loss S21



Reel Taping Specification

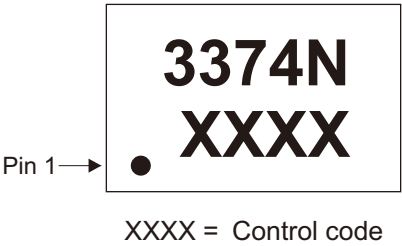


DFN3020-10L	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.20 ± 0.05	3.20 ± 0.10	0.90 ± 0.05	1.50 ± 0.10	178.00 ± 1.00	54.50 ± 0.50	14.60 ± 0.20
	(inch)	0.087 ± 0.002	0.126 ± 0.004	0.035 ± 0.002	0.059 ± 0.004	7.008 ± 0.039	2.146 ± 0.020	0.575 ± 0.008

DFN3020-10L	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.23 ± 0.05	8.00 ± 0.10	12.20 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.004	0.480 ± 0.020

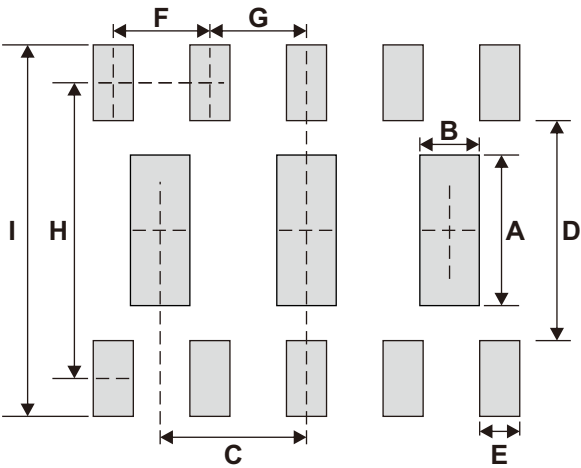
Marking Code

Part Number	Marking Code
ACPDA13C3V3-HF	3374N



Suggested P.C.B. PAD Layout

SIZE	DFN3020-10L	
	(mm)	(inch)
A	1.00	0.039
B	0.40	0.016
C	0.95	0.037
D	1.40	0.055
E	0.25	0.010
F	0.60	0.024
G	0.65	0.026
H	1.98	0.078
I	2.56	0.101



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN3020-10L	3,000	7