

A. ECAD Design Information

This information supports the development of the PCB ECAD model for this device. It is intended to be used by PCB designers.

A.1 Part Number Indexing

Orderable Part Number	Number of Pins	Package Type	Package Code/POD Number
RAA489118ARGNP#AA0	32	TQFN	L32.4x4D
RAA489118ARGNP#HA0	32	TQFN	L32.4x4D
RAA489118A3GNP#AA0	32	TQFN	L32.4x4D
RAA489118A3GNP#HA0	32	TQFN	L32.4x4D
RAA489118A3GNP#MA0	32	TQFN	L32.4x4D

A.2 Symbol Pin Information

A.2.1 32-TQFN

Pin Number	Primary Pin Name	Primary Electrical Type	Alternate Pin Name(s)
1	CSON	Input	-
2	CSOP	Input	-
3	VSYS	Input	-
4	BOOT2	Power	-
5	UGATE2	Output	-
6	PHASE2	Power	-
7	LGATE2	Output	-
8	VDDP	Power	-
9	LGATE1	Output	-
10	PHASE1	Power	-
11	UGATE1	Output	-
12	BOOT1	Power	-
13	ASGATE	Output	-
14	CSIN	Input	-
15	CSIP	Input	-
16	ADP	Input	-
17	DCIN	Power	-
18	VDD	Power	-
19	ACIN	Input	-
20	OTGEN	Input	CMIN
21	SDA	I/O	-
22	SCL	I/O	-
23	PROCHOT#	Output	-
24	ACOK	Output	-
25	BATGONE	Input	-
26	OTGPG	Output	CMOUT
27	PROG	Input	-
28	COMP	Output	-
29	AMON	Output	BMON
30	CONFIG	I/O	PSYS
31	VBAT	Input	-

Pin Number	Primary Pin Name	Primary Electrical Type	Alternate Pin Name(s)
32	BGATE	Output	-
EPAD33	GND	Power	-

A.3 Symbol Parameters

Orderable Part Number	Qualification	Mounting Type	Min Input Voltage	Max Input Voltage	Min Output Voltage	Max Output Voltage	Min Operating Temperature	Max Operating Temperature	RoHS	Trickle Charging	Typ Switching Frequency	Switcher Configuration
RAA489118ARGNP#AA0	Consumer	SMD	3.9 V	30 V	2.4 V	30.8 V	-10° C	+100° C	Yes	Yes	732 KHz	Buck, Boost, and Buck-Boost
RAA489118ARGNP#HA0	Consumer	SMD	3.9 V	30 V	2.4 V	30.8 V	-10° C	+100° C	Yes	Yes	732 KHz	Buck, Boost, and Buck-Boost
RAA489118A3GNP#AA0	Industrial	SMD	3.9 V	30 V	2.4 V	30.8 V	-40° C	+105° C	Yes	Yes	732 KHz	Buck, Boost, and Buck-Boost
RAA489118A3GNP#HA0	Industrial	SMD	3.9 V	30 V	2.4 V	30.8 V	-40° C	+105° C	Yes	Yes	732 KHz	Buck, Boost, and Buck-Boost
RAA489118A3GNP#MA0	Industrial	SMD	3.9 V	30 V	2.4 V	30.8 V	-40° C	+105° C	Yes	Yes	732 KHz	Buck, Boost, and Buck-Boost

A.4 Footprint Design Information

A.4.1 32-TQFN

IPC Footprint Type	Package Code/ POD number	Number of Pins
QFN	L32.4x4D	32

Description	Dimension	Value (mm)	Diagram
Minimum body span (vertical side)	Dmin	3.95	
Maximum body span (vertical side)	Dmax	4.05	
Minimum body span (horizontal side)	Emin	3.95	
Maximum body span (horizontal side)	Emax	4.05	
Minimum Lead Width	Bmin	0.15	
Maximum Lead Width	Bmax	0.25	
Minimum Lead Length	Lmin	0.25	
Maximum Lead Length	Lmax	0.35	
Maximum Height	Amax	0.8	
Minimum Standoff Height	A1min	0	
Minimum Lead Thickness	cmin	0.15	
Maximum Lead Thickness	cmax	0.25	
Number of pins (vertical side)	PinCountD	8	
Number of pins (horizontal side)	PinCountE	8	
Distance between the center of any two adjacent pins (vertical side)	PitchD	0.4	
Distance between the center of any two adjacent pins (horizontal side)	PitchE	0.4	
Location of pin 1; S2 = corner of D side, C1 = center of E side	Pin1	S2	
Minimum thermal pad size (vertical side)	D2min	2.6	
Maximum thermal pad size (vertical side)	D2max	2.8	
Minimum thermal pad size (horizontal side)	E2min	2.6	
Maximum thermal pad size (horizontal side)	E2max	2.8	

Recommended Land Pattern			
Description	Dimension	Value (mm)	Diagram
Distance between left pad toe to right pad toe (horizontal side)	ZE	4.4	
Distance between top pad toe to bottom pad toe (vertical side)	ZD	4.4	
Distance between left pad heel to right pad heel (horizontal side)	GE	3.4	
Distance between top pad heel to bottom pad heel (vertical side)	GD	3.4	
Pad Width	X	0.2	
Pad Length	Y	0.5	