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> Evaluation Boards (/cms/en/product/evaluation-boards/) > REF_3K3W_TP_SIC_TOLL

REF_3K3W_TP_SIC_TOLL NEW

Overview

3300 W bridgeless totem-pole PFC with CoolSiC™, CoolMOS™, and XMC™ digital control

The EVAL_3K3W_TP_SIC_TOLL is a full system solution utilizing Infineon's power semiconductors, drivers, and microcontrollers. It boasts a bridgeless totem-pole topology, ideal for high-end applications that demand exceptional efficiency and power density. The totem-pole design enables simplicity, reduces component count, and optimally utilizes the PFC inductor and switches allowing for high power density at limited system cost.

Summary of Features

- SiC-based totem-pole PFC
- Highest efficiency with CoolMOS™ and CoolSiC™
- SMD solution for high power density
- Digital control enabled by XMC1402

Benefits

- Full Infineon's semiconductor solution
- 98.9% high efficiency (@1650 W, 50% load)
- Compact design (80 W/in³)
- Low component count

List of components



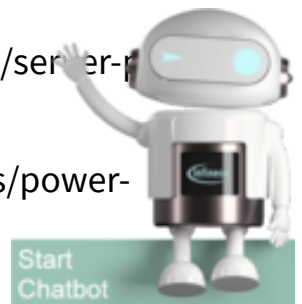
- **1EDB8275F** (/cms/en/product/power/gate-driver-ics/1edb8275f/) (EiceDRIVER™ single-channel isolated gate-driver)
- **1EDB9275F** (/cms/en/product/power/gate-driver-ics/1edb9275f/) (EiceDRIVER™ single-channel isolated gate-driver)
- **BAT 165 E6327** (/cms/en/product/small-signal-transistors-diodes/diode/schottky-diodes/bat165/) (Schottky Diode)
- **ICE5QSAG** (/dgd/Infineon-ICE5QSAG-DataSheet-v02_10-EN.pdf?fileId=5546d46259d9a4bf015a4af1df9b1119) (CoolSET™ Quasi-Resonant Controller)
- **IMT65R048M1H** (/cms/en/product/power/mosfet/silicon-carbide/discretes/imt65r048m1h/) (CoolSiC™ MOSFET discrete 650 V in TOLL package)
- **IPT60R022S7** (/cms/en/product/power/mosfet/n-channel/500v-950v/ipt60r022s7/) (CoolMOS™ S7 Superjunction MOSFET)
- **IPU95R3K7P7** (/cms/en/product/power/mosfet/n-channel/500v-950v/ipu95r3k7p7/) (CoolMOS™ P7 series MOSFET)
- **XMC1402-Q040X0064 AA** (/cms/en/product/microcontroller/32-bit-industrial-microcontroller-based-on-arm-cortex-m/32-bit-xmc1000-industrial-microcontroller-arm-cortex-m0/xmc1402-q040x0064-aa/) (XMC™ 32-bit Microcontrollers with ARM® Cortex®-M0)

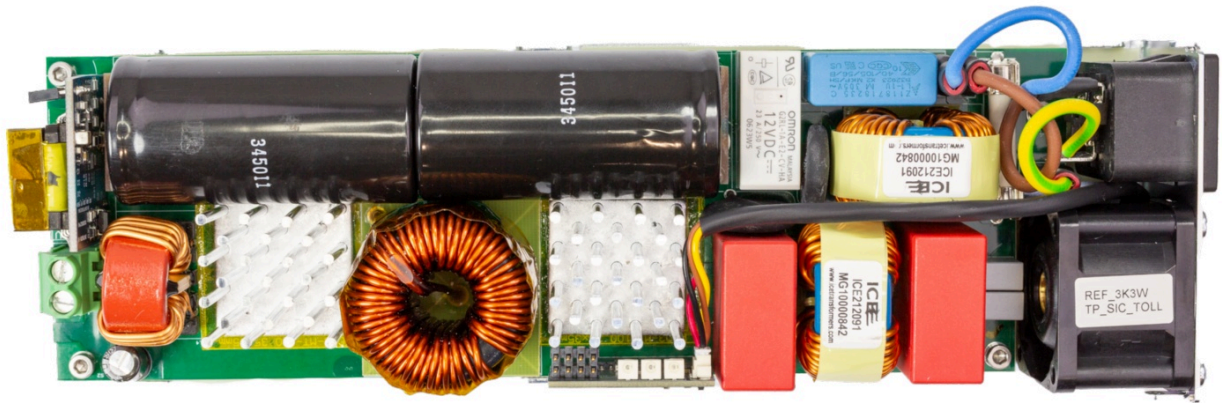
Applications

- › AC-DC power conversion for telecom infrastructure (/cms/en/applications/information-communication-technology/telecommunication-infrastructure/ac-dc/)
- › Battery chargers (/cms/en/applications/consumer-electronics/adapters-and-chargers/battery-chargers/)
- › EV charging (/cms/en/applications/industrial/ev-charging/)
- › Server power supplies (/cms/en/applications/solutions/power-supplies/server-power-supply/)



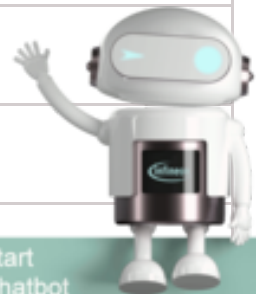
› (/cms/en/applications/solutions/power-supplies/)





Parametrics

Parametrics	REF_3K3W_TP_SIC_TOLL
Board Type	Reference Board
Configuration	CCM totem pole
Description	3300 W bridgeless totem-pole PFC with CoolSiC™, CoolMOS™, and XMC™ digital control
Dimensions	40mmx70mmx240mm ; 1000g
Family	MOSFET
Input Type	AC
$P_{out\ max}$	3300 W



Start
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Parametrics	REF_3K3W_TP_SIC_TOLL
Product Name	REF_3K3W_TP_SIC_TOLL
Qualification	Industrial
Sub Application	Power Supplies
Supply Voltage min max	176 V 265 V
Target Application	Charging ; EV charging ; SMPS ; Server ; Telecom

Documents

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ret=https%3A%2F%2Fwww.infineon.com%2Fcms%2Fen%2Fproduct%2Fevaluation-boards%2Fref_3k3w_tp_sic_toll%2F%23!documents)

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+ Expand all

— Data Sheets





IMT65R048M1H (/dgd/Infineon-IMT65R048M1H-DataSheet-v02_00-EN.pdf?fileId=8ac78c8c872bd8d601876f4b5ab271c4)

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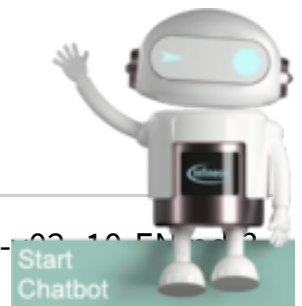
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XMC1400 AA-Step Data Sheet (/dgd/Infineon-XMC1400-DataSheet-v01_04-EN.pdf?fileId=5546d46250cc1fdf015110a2596343b2)

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+ Application Notes




3300 W CCM totem pole with 650 V CoolSiC™ in TOLL package and XMC™ (/dgd/Infineon-

AN_2307_PL52_2308_140931_3300W_CCM_Totem_pole_with_650V-ApplicationNotes-v02_00-EN.pdf?

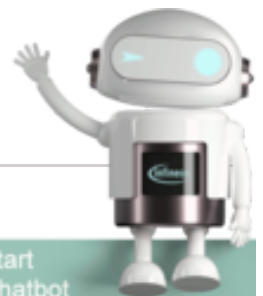
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— Additional Product Information




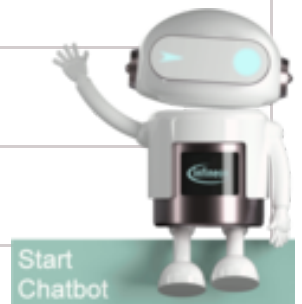
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Product Status	active and preferred
Infineon Package name	--
Standard Package name	
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Completely lead free	
Halogen free	
RoHS compliant	
Packing Size	1
Packing Type	CONTAINER
Moisture Level	
Moisture Packing	NON DRY



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