700 V CoolMOS™ P7

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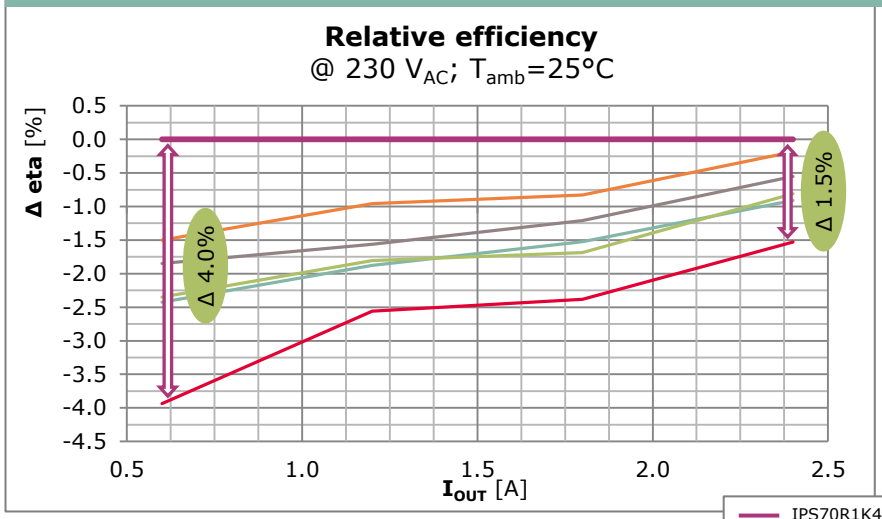
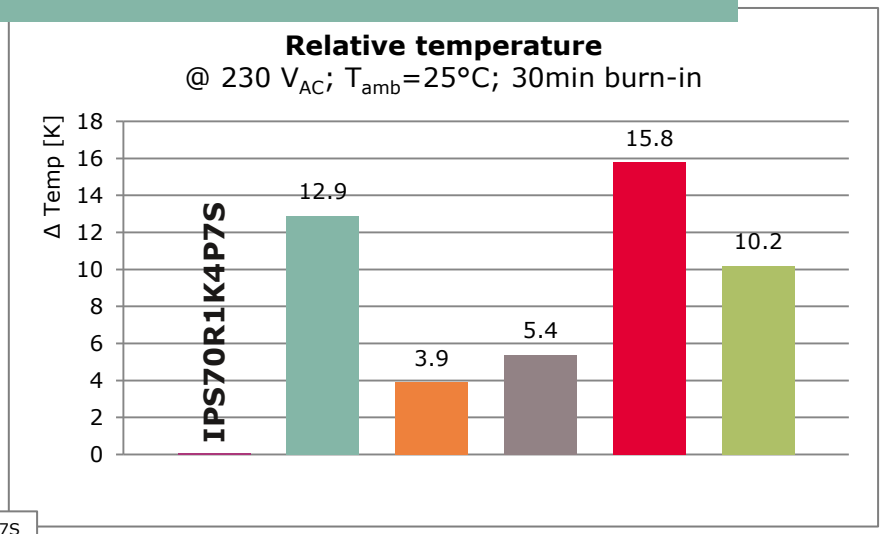
700 V CoolMOS™ P7 – benchmarking charger performance 12 W high end customer design

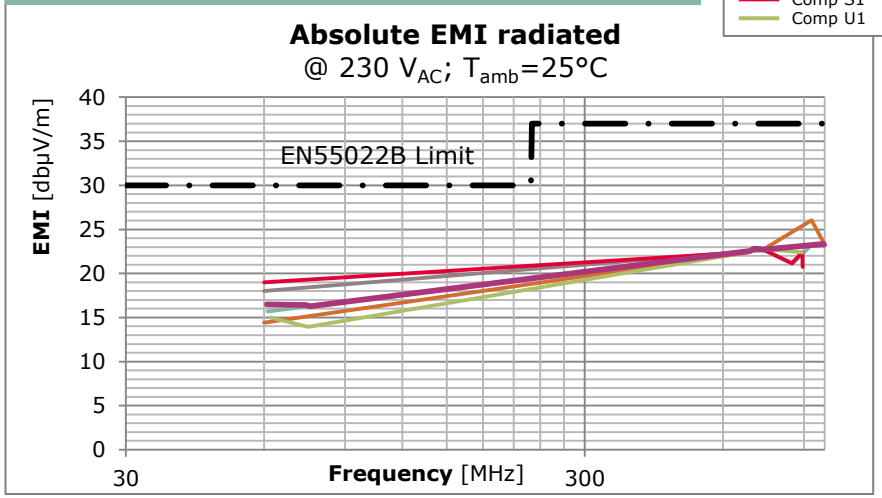
Efficiency and temperature difference





IPS70R1K4P7S
IPS65R950C6
Comp L1
Comp M1
Comp S1
Comp U1

EMI performance



Key statements for P7 700 V

- Operating frequency up to 140 kHz
- IFX 1K4 mΩ device outperforms competitors' 900 mΩ devices

P7 700 V offers:

- Best-in-class efficiency
- Best-in-class thermal behavior
- By far fulfilling EMI criteria

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Application test and benchmarking
Charger conclusion

Board	Supplier	Efficiency	Thermals	EMI
15 W IFX charger	Infineon P7	●	●	pass
	Comp.	◐	◐	pass
10.6 W Std. charger	Infineon P7	●	●	n/a
	Infineon C6	◕	◐	n/a
10.6 W Travel charger	Infineon P7	●	●	n/a
	Comp.	◕	◕	n/a
12 W high-end charger	Infineon P7	●	●	pass
	Comp.	◔	◔	pass

700 V P7 the outstanding future superjunction technology

- **700 V P7** has been developed to **enable** customers going to **higher switching frequency**
- At higher switching frequency 700 V P7 is
  - **Best-in-class** in terms of **efficiency**, **thermal performance** as well as **EMI behavior**

● Best ◐ Medium ○ Worst

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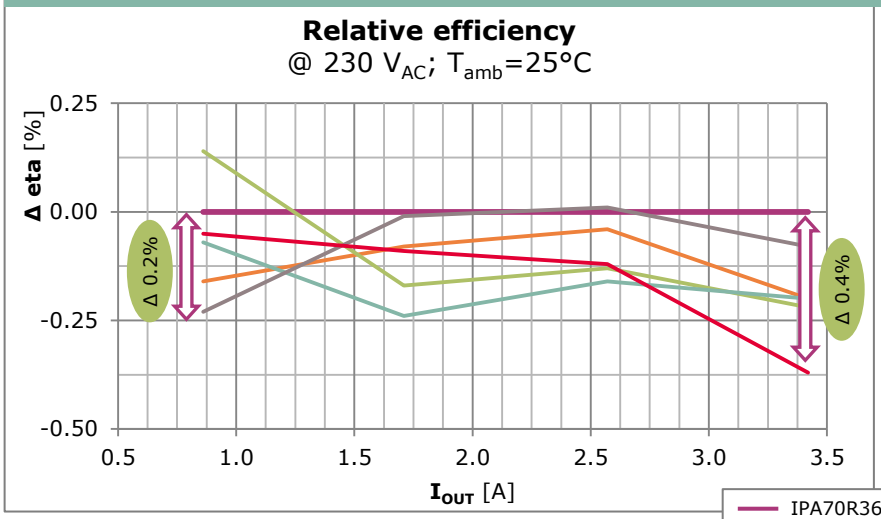
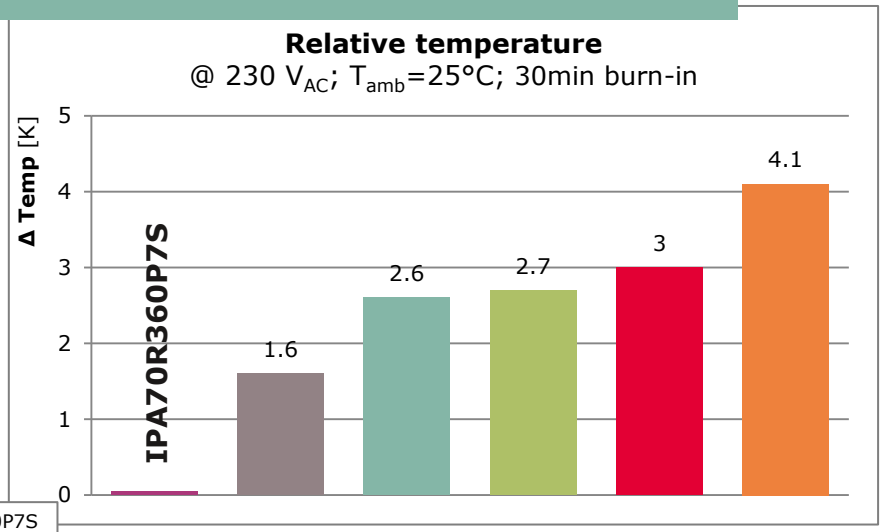
700 V CoolMOS™ P7 – benchmarking adapter performance 65 W customer design

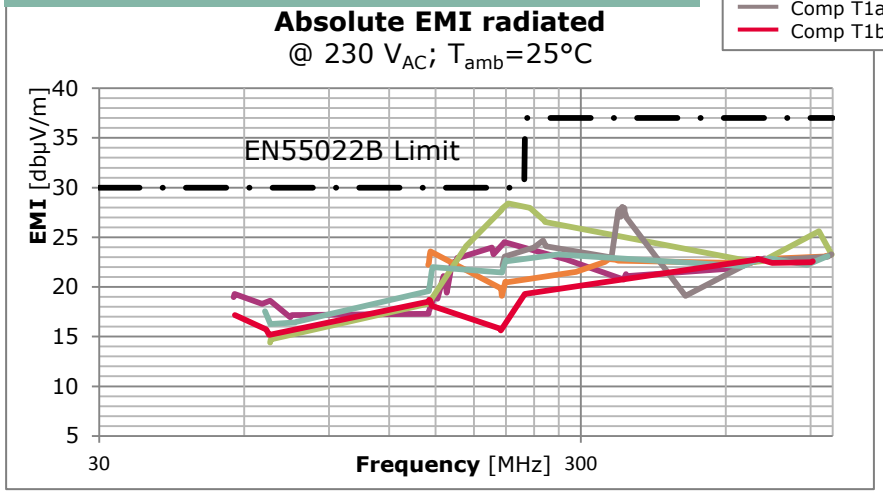
Efficiency and temperature difference





IPA70R360P7S
Comp M1
Comp S1a
Comp S1b
Comp T1a
Comp T1b

EMI performance



Key statements for P7 700 V

P7 700 V offers:

- Outperforming efficiency results
- Excellent thermal behavior
- Fully passing EMI criteria

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Application test and benchmarking
Adapter conclusion

Board	Supplier	Efficiency	Thermals	EMI
35 W Infineon adapter	Infineon P7	●	●	Pass
	Comp.	◔	◑	Pass
65 W customer adapter	Infineon P7	●	●	Pass
	Comp.	◑	◑	partly pass

700 V P7 is the enabler for higher efficiency and lower temperature

- **700 V P7** can convince with high efficiency and lower temperatures
- The technology **fulfills the EMI criteria's**
- It allows and supports going to **higher switching frequency** where it leads to:
  - **Best-in-class** in terms of **efficiency**, **thermal performance**
  - **Reduction** of **magnetic components**

● Best ◑ Medium ○ Worst

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