



## Product Brief

# 800 V CoolSET™

## AC-DC integrated power stage

### Quasi resonant CoolSET™

The quasi resonant CoolSET™ series continues to deliver design agility and miniaturization. Upon the successful F3 CoolSET™, it offers the possibility of higher efficiency and better EMI performance. The digital frequency reduction feature scores a very stable operation with decreasing load change.

### Fixed frequency CoolSET™

Infineon's AC-DC integrated power stage 800 V CoolSET™ fixed frequency offers lowest standby power consumption < 300 mW at no load condition and lowest on-resistance for record efficiency levels. 650 V or 800 V avalanche rugged CoolMOS™ Power MOSFET is integrated optionally.

### Quasi-resonant CoolSET™ 800 V

| $P_{out}^{1)}$<br>85 V <sub>AC</sub> ... 265 V <sub>AC</sub> | 18 W                     | 24 W                         | 37 W        | 47 W        |
|--------------------------------------------------------------|--------------------------|------------------------------|-------------|-------------|
| $R_{DS(on)}$                                                 | 4.7 Ω                    | 2.2 Ω                        | 1.0 Ω       | 0.6 Ω       |
| Package                                                      | 800 V depletion CoolMOS™ |                              |             |             |
| DIP-7                                                        | ICE2QR4780Z              | ICE2QR2280Z<br>ICE2QR2280Z-1 |             | ICE2QR0680Z |
| DSO-12                                                       | ICE2QR4780G              | ICE2QR2280G<br>ICE2QR2280G-1 | ICE2QR1080G | ICE2QR0680Z |

<sup>1)</sup> Output power assume 78–83% efficiency.  $T_a = 50^\circ\text{C}$ ,  $T_j = 125^\circ\text{C}$  and no copper area for 650 V device and 232 mm<sup>2</sup> copper area for 800 V device.

### Fixed frequency PWM IC and CoolSET™ 800 V

| $P_{out}^{2)}$<br>85 V <sub>AC</sub> ... 265 V <sub>AC</sub> | 11 W                            | 16 W                                           | 22 W                                                                             | 30 W          | 37 W          | 43 W                                          |
|--------------------------------------------------------------|---------------------------------|------------------------------------------------|----------------------------------------------------------------------------------|---------------|---------------|-----------------------------------------------|
| $R_{DS(on)}$                                                 | 10.0 Ω                          | 4.7 Ω                                          | 2.2 Ω                                                                            | 1.5 Ω         | 1.0 Ω         | 0.6 Ω                                         |
| Package                                                      | 800 V depletion CoolMOS™        |                                                |                                                                                  |               |               |                                               |
| DIP-7                                                        | ICE3AR10080JZ<br>ICE3AR10080CJZ | ICE3AR4780JZ<br>ICE3AR4780VJZ<br>ICE3AR4780CJZ | ICE3AR2280JZ<br>ICE3AR2280JZ-T<br>ICE3AR2280CJZ<br>ICE3AR2280VJZ<br>ICE3BR2280JZ | ICE3AR1580VJZ | ICE3AR1080VJZ | ICE3AR0680JZ<br>ICE3AR0680VJZ<br>ICE3BR0680JZ |
| DSO-12                                                       |                                 | ICE3AR4780JG                                   | ICE3AR2280JG                                                                     |               | ICE3AR1080JG  |                                               |

<sup>2)</sup> Output power assume 76–83% efficiency.  $T_a = 50^\circ\text{C}$ ,  $T_j = 125^\circ\text{C}$  and no copper area

### Product highlights

#### 800 V quasi-resonant CoolSET™

- > Digital frequency reduction with decreasing load
- > Cycle-by-cycle current limitation with fold-back correction
- > Built-in digital soft-start
- > Active burst mode for lowest standby power < 50 mW
- > Latch-off mode for short-winding and output voltage
- > Enhanced integrated protection functions

#### 800 V fixed frequency CoolSET™

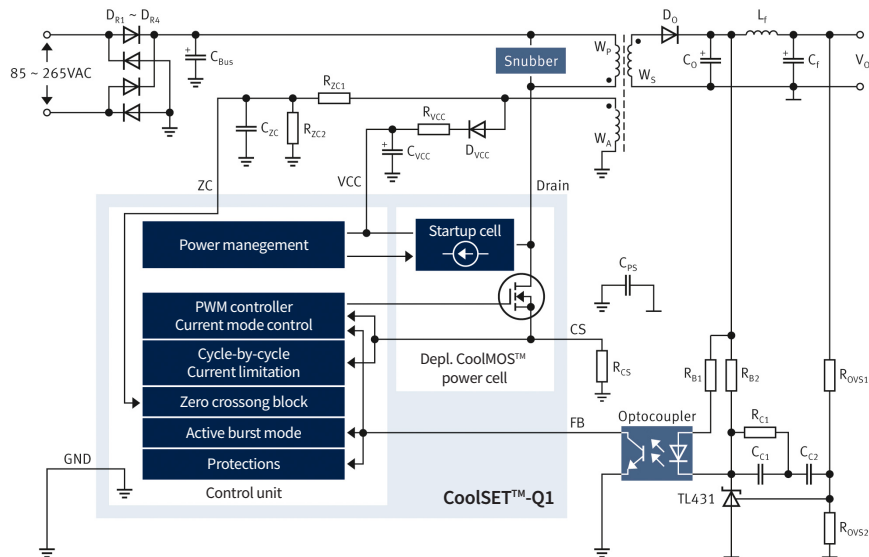
- > 800 V avalanche rugged CoolMOS™ with startup cell
- > Active burst mode to reach the lowest standby power < 100 mW
- > Selectable enter and exit burst mode level
- > Adjustable blanking window for high load jumps
- > Frequency jitter and soft driving for low EMI



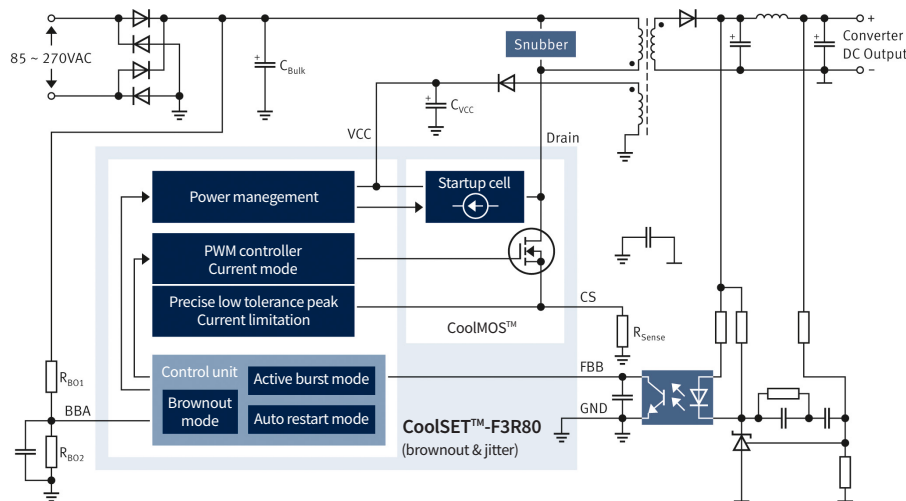
# 800 V CoolSET™

## AC-DC integrated power stage

### Application diagram – 800 V quasi-resonant CoolSET™



### Application diagram – 800 V fixed frequency CoolSET™



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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