



Power Management Solutions for Altera® FPGAs



Stratix™ & Stratix™ GX						Core Voltage: 1.5 V
Input Supply	≤200 mA	≤500 mA	≤1 to 1.5 A	≤2 to 2.5 A	≤3 to 5 A	≤25 A
1.8 V	NCP551 Linear	NCP3335 Linear NCP5500/1 Linear	–	–	–	–
2.5 to 5.5 V	NCP551 Linear NCP582/3 Linear NCP1521/2/3 Buck Converter	NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller CS51031 Buck Controller	NCP5662 Linear NCP3163 Buck Controller CS51031 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3163 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller CS51033 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller CS51033 Buck Controller	NCP5211 Buck Controller CS51033 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3163 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–
APEX™ 20K						Core Voltage: 1.8 V
2.5 to 5.5 V	NCP584 Linear NCP561 Linear NCP1521/2/3 Buck Converter	NCP3335 Linear NCP5500/1 Linear NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller	NCP5662 Linear NCP1550 Buck Controller NCP3163 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3163 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller CS51033 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3163 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–
Cyclone™ II						Core Voltage: 1.2 V
1.8 V	LM2931 Linear NCP584 Linear	–	–	–	–	–
2.5 to 5.5 V	LM2931 Linear NCP584/5 Linear NCP5211 Buck Controller NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP1521/2/3 Buck Converter NCP5211 Buck Controller	NCP565 Linear NCP5661 Linear NCP5211 Buck Controller	NCP5662 Linear NCP5211 Buck Controller	NCP5663 Linear NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP1582 Buck Controller
Stratix™ II						Core Voltage: 1.2 V
1.8 V	LM2931 Linear NCP584 Linear	–	–	–	–	–
2.5 to 5.5 V	NCP584/5 Linear NCP5211 Buck Controller NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP1521/2/3 Buck Converter NCP5211 Buck Controller	NCP565 Linear NCP5661 Linear NCP5211 Buck Controller	NCP5662 Linear NCP5211 Buck Controller	NCP5663 Linear NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP5211 Buck Controller	NCP1582 Buck Controller
ACEX®						Core Voltage: 2.5 V
1.8 to 2.5 V	NCP1410 Boost Converter NCP1423 Boost Converter	NCP1421 Boost Converter NCP1422 Boost Converter	–	–	–	–
3 to 5.5 V	NCP582 Linear NCP583 Linear NCP1521/2/3 Buck Converter	NCP3335 Linear NCP5500/1 Linear NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller	NCP5662 Linear NCP1550 Buck Controller NCP3163 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–

MAX [®] II						Core Voltage: 1.8 V
Input Supply	≤200 mA	≤500 mA	≤1 to 1.5 A	≤2 to 2.5 A	≤3 to 5 A	≤25 A
2.5 to 5.5 V	NCP584 Linear NCP561 Linear NCP1521/2/3 Buck Converter	NCP3335 Linear NCP5500/1 Linear NCP1521/2/3 Buck Converter	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller	NCP5662 Linear NCP1550 Buck Controller NCP3163 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3163 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3163 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–

MAX [®] 3000A & 7000AE						Core Voltage: 3.3 V
1.8 to 3 V	NCP1402 Boost Converter NCP1410 Boost Converter NCP1423 Boost Converter	NCP1421 Boost Converter NCP1422 Boost Converter NCP1450A Boost Converter	–	–	–	–
3 to 3.6 V	NCP3063 Buck Controller NCP1521/2/3 Buck Converter	NCP3063 Buck Controller NCP1521/2/3 Buck Converter	NCP3163 Buck/Boost	NCP3163 Buck/Boost	–	–
3.3 to 5.5 V	NCP511 Linear NCP3063 Buck Controller NCP1521/2/3 Buck Converter	NCP3335 Linear NCP5500/1 Linear NCP1521/2/3 Buck Converter NCP3063 Buck Controller	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller	NCP5662 Linear NCP1550 Buck Controller NCP3163 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3063 Buck Controller CS51033 Buck Controller	NCP3063 Buck Controller CS51033 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–

MAX [®] 7000B						Core Voltage: 2.5 V
1.8 to 2.5 V	NCP1410 Boost Converter NCP1423 Boost Converter	NCP1421 Boost Converter NCP1422 Boost Converter	–	–	–	–
3 to 5.5 V	NCP582 Linear NCP583 Linear NCP3063 Buck Controller NCP1521/2/3 Buck Converter	NCP3335 Linear NCP5500/1 Linear NCP1521/2/3 Buck Converter NCP3063 Buck Controller	NCP565 Linear NCP5661 Linear NCP3163 Buck Controller	NCP5662 Linear NCP1550 Buck Controller NCP3163 Buck Controller	NCP5663 Linear NCP630 Linear CS51031 Buck Controller	–
≤12 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51033 Buck Controller	–

MAX [®] 7000S						Core Voltage: 5 V
1.8 V	NCP1402 Boost Converter NCP1410 Boost Converter	NCP1421 Boost Converter NCP1422 Boost Converter NCP1450A Boost Converter	–	–	–	–
2.5 to 4.5 V	NCP1402 Boost Converter NCP1410 Boost Converter	NCP1421 Boost Converter NCP1422 Boost Converter NCP1450A Boost Converter	NCP3163 Buck Controller	NCP3163 Buck Controller	NCP1442 Boost Converter CS51033 Buck Controller	–
4.5 to 5.5 V	NCP3063 Buck Controller	NCP3063 Buck Controller	NCP3163 Buck Controller	NCP3163 Buck Controller	CS51031 Buck Controller	–
≤12 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller CS51033 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	CS51031 Buck Controller NCP5211 Buck Controller	NCP1582 Buck Controller
≤24 V	NCP3063 Buck Controller LM2574 Buck Controller	NCP3063 Buck Controller LM2574 Buck Controller	CS51413 Buck Controller LM2574 Buck Controller	NCP3163 Buck Controller LM2576 Buck Controller	MC33167 Buck Controller CS51033 Buck Controller	–

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