



NXV08A170DB2

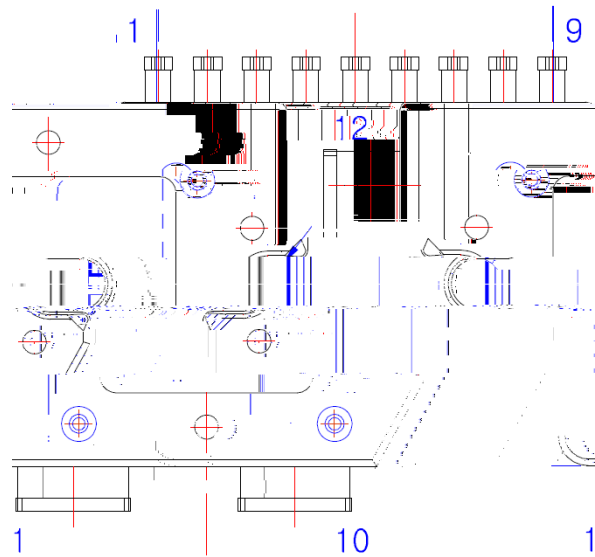


Figure 1. Pin Configuration

PIN DESCRIPTION

Pin Number	Pin Name	Pin Description
1	Q2LG	Low side MOSFET (Q2) Gate
2	Q2LS	Low side MOSFET (Q2) source sense
3	NTC+	Thermistor 1
4	NTC-	Thermistor 2
5	Shunt N	Shunt N
6	Shunt P	Shunt P
7	Q1HS	High side MOSFET (Q1) source sense
8	VLINK	B+ Sense
9	Q1HG	High side MOSFET (Q1) Gate
10	B+	B+ connection
11	GND	GND connection
12	POUT	Phase connection

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Block Diagram

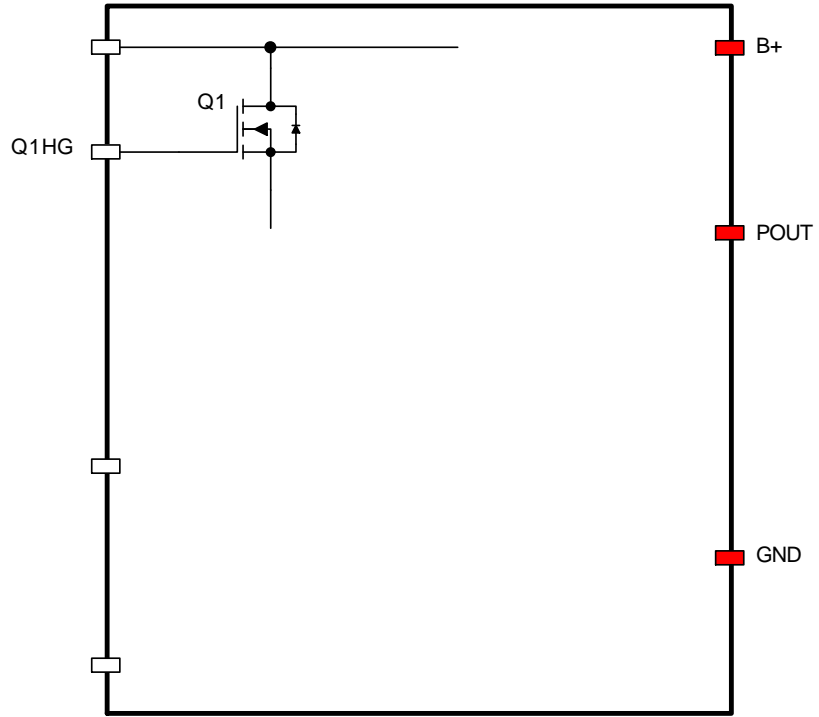


Figure 2. Schematic

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THERMAL CHARACTERISTICS

Symbol	Parameter	Min
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ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS} = 40\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ MHz}$	-	14000	-	pF
Output Capacitance	C_{oss}		-	9450	-	pF

TYPICAL CHARACTERISTICS

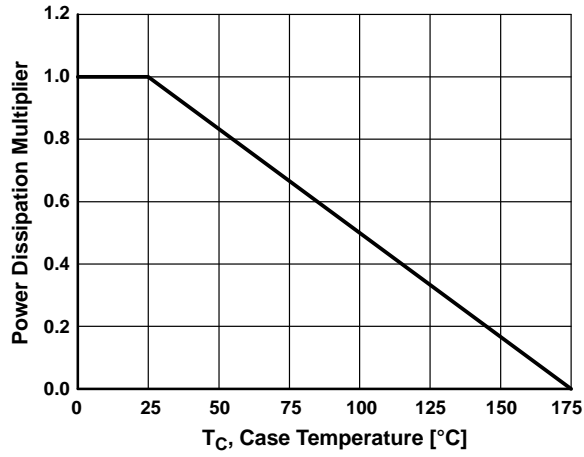


Figure 3. Normalized Power Dissipation vs. Case Temperature

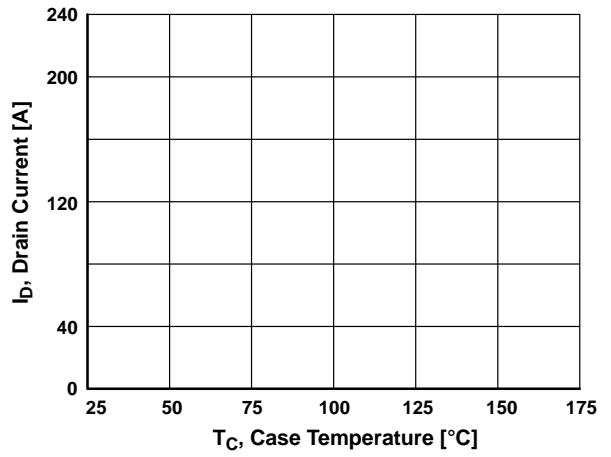


Figure 4. Maximum Continuous Drain Current vs. Case Temperature

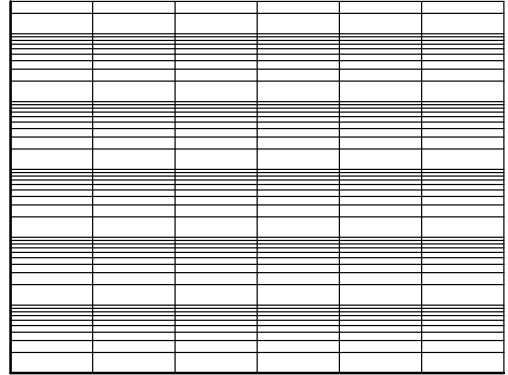


Figure 5. Transfer Characteristics

Figure 6. Forward Diode Characteristics

Figure 7. Saturation Characteristics (25°C)

Figure 8. Saturation Characteristics (175°C)

TYPICAL CHARACTERISTICS (continued)

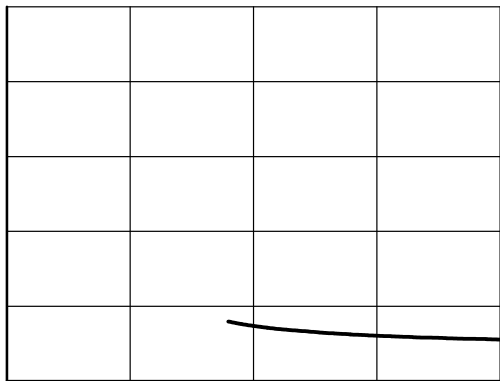


Figure 9. $R_{DS(on)}$ vs. Gate Voltage

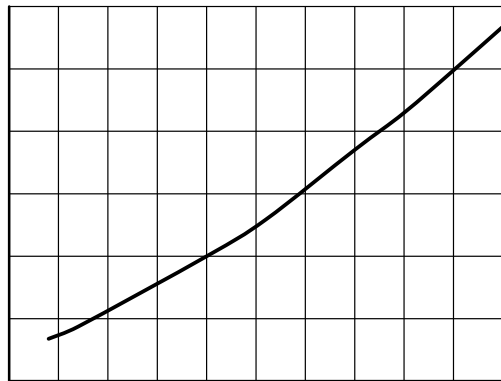


Figure 10. Normalized $R_{DS(on)}$ vs. Junction Temperature



Figure 11. Normalized $V_{GS(th)}$ vs. Temperature

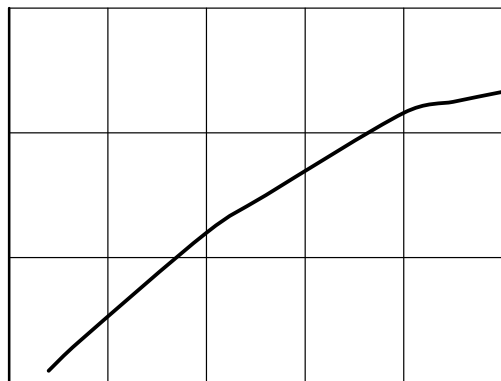


Figure 12. Breakdown Voltage vs. Temperature

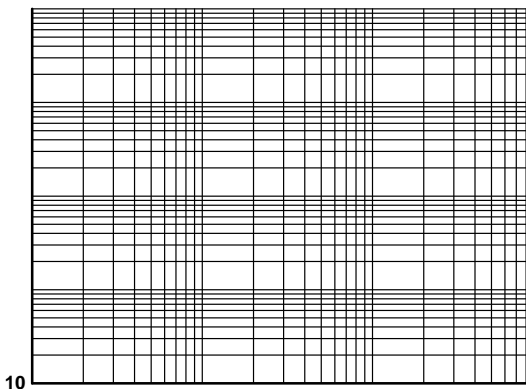


Figure 13. Capacitance Variation

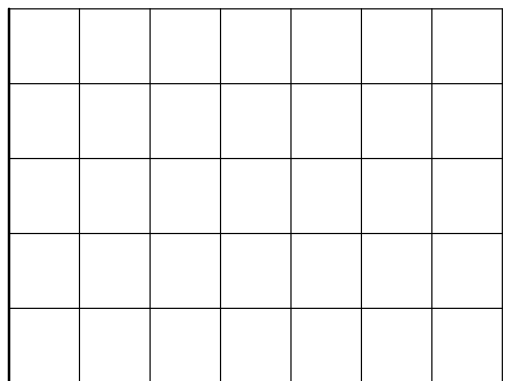
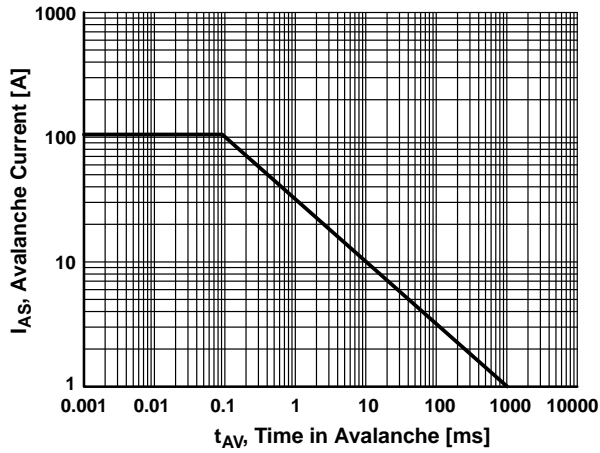


Figure 14. Gate Charge

TYPICAL CHARACTERISTICS (continued)



Refer to onsemi Application Notes AN7514 and AN7515.

Figure 15. Unclamped Inductive Switching Capability

Figure 16. Forward Diode Characteristic

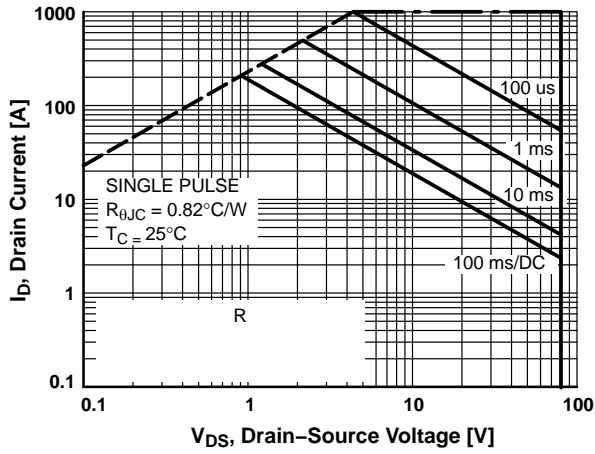


Figure 17. Safe Operation Area

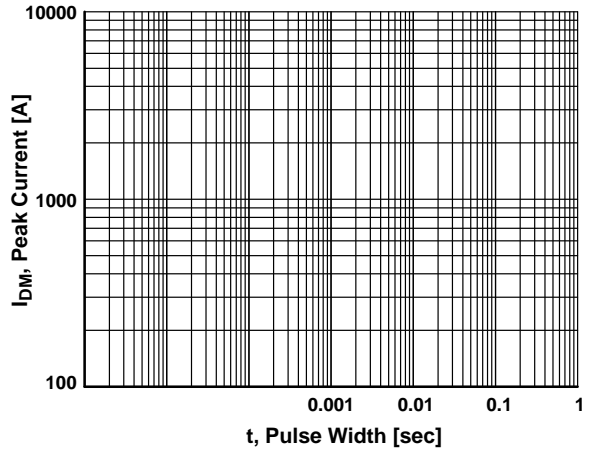


Figure 18. Peak Current Capability

TYPICAL CHARACTERISTICS (continued)

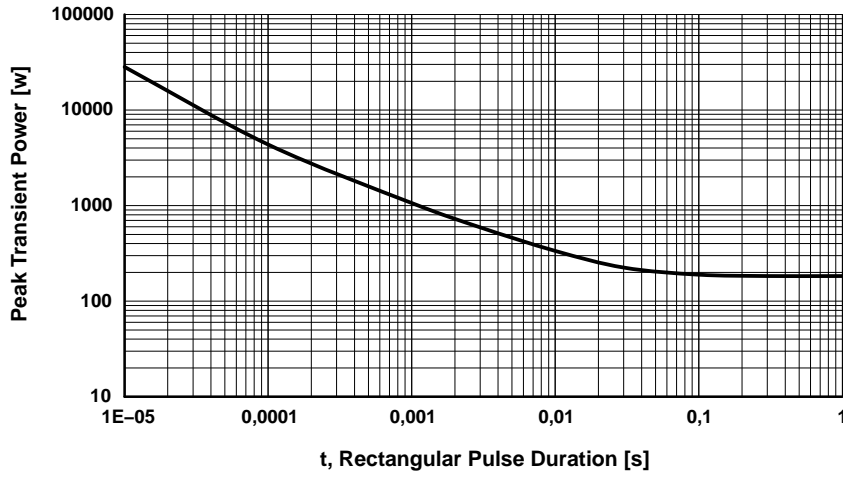


Figure 19. Peak Power Capability

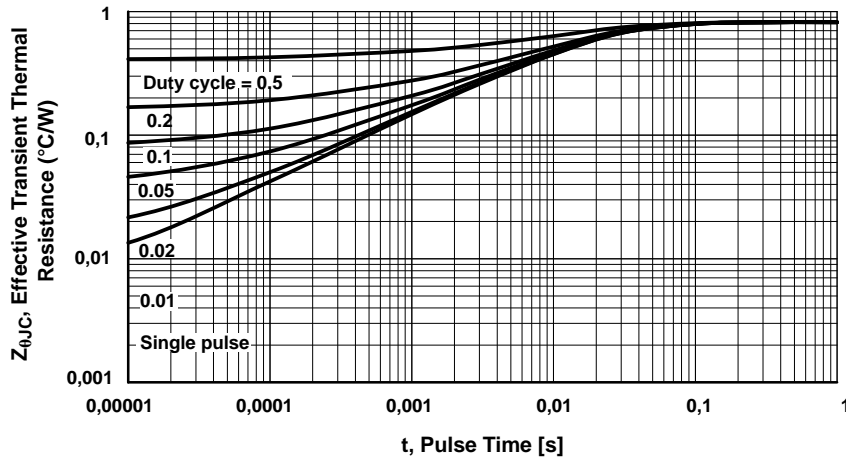


Figure 20. Maximum Transient Thermal Impedance

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PACKAGE DIMENSIONS

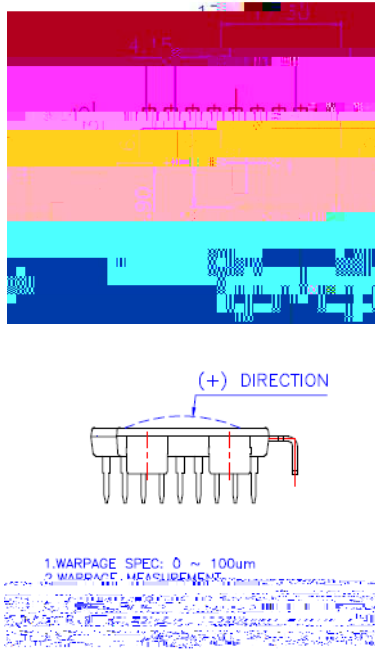


Figure 21. Flatness Measurement Position

MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Test Conditions	Min	Typ	Max	Units
Device Flatness	Refer to the package dimensions	0	–	100	um
Mounting Torque	Mounting screw – M3, Recommended 0.7 N–m	0.6	–	1.4	N–m
Weight		–	10	–	g
Compression Test	Maximum load, test speed: 0.5 mm/min (Note 7)	–	–	22	kN

7. Guaranteed by experiment, valid only in confirmed condition.

PACKAGE MARKING AND ORDERING INFORMATION

Device	Part Number	Package	Pb-Free and RoHS Compliant	Packing Method
NXV08A170DB2	NXV08A170DB2	APM12–CBA	Yes	Tray

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