ORDERING INFORMATION

Part Number	Package	Pb−Free and RoHS Compliant	Operating Ambient Temperature Range	Packing Method
NXV08H250DPT2	APM17−MFA	yes	−40 125 C	Tube

Pin Configuration

Figure 1. Pin Configuration

PIN DESCRIPTION

Pin No.	Description	Remark
1	Q2 Gate	
2	Q2 Source Sense	Q2 Source Sense & Q4 Drain

Block Diagram

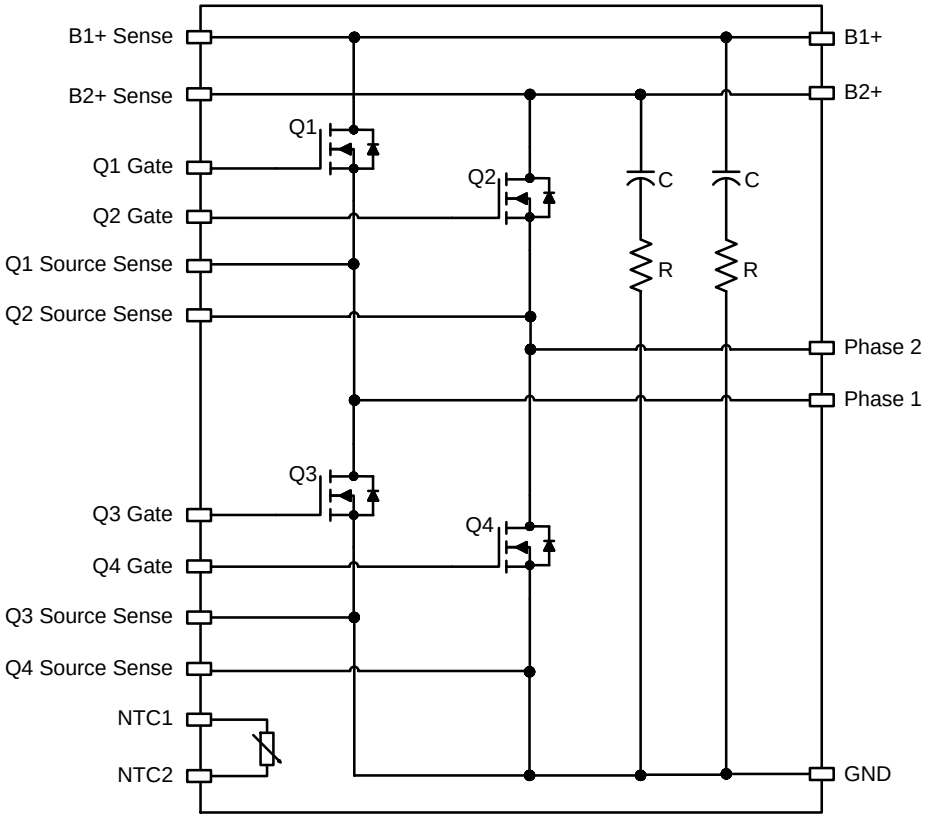

Figure 2. Schematic

ELECTRICAL CHARACTERISTICS (T_J = 25 C, unless otherwise noted)

Characteristic		Condition	Min	Typ	Max	Unit
BVDSS	Drain−to−Source Breakdown Voltage					

DYNAMIC AND SWITCHING CHARACTERISTICS (T_J = 25 C unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{DS} = 40 V, V_{GS} = 0 V, f = 750 kHz	–	24350	–	pF
C_{oss}	Output Capacitance		–	3415	–	pF
C_{rss}	Reverse Transfer Capacitance		–	53	–	pF
R_g	Gate Resistance	f = 750 kHz	–	3.6	–	Ω
$Q_{g(tot)}$	Total Gate Charge	V_{GS} = 0 to 10 V, I_D =160 A	–	320	–	nC
Q_{gs}	Gate to Source Gate Charge		–	150	–	nC
Q_{gd}	Gate to Drain “Miller” Charge		–	54	–	nC
SWITCHING CHARACTERISTICS						
t_{on}	Turn−On Time	V_{DD} = 48 V, I_D = 400 A V_{GS} = 12 V, R_G(on/off) = 15/15 Ω	–	462	–	ns
$t_{d(on)}$	Turn−On Delay Time		–	164	–	ns
t_r	Turn−On Rise Time		–	298	–	ns
$t_{d(off)}$	Turn−Off Delay Time		–	476	–	ns
t_f	Turn−Off Fall Time		–	196	–	ns
t_{off}	Turn−Off Time		–	672	–	ns
DRAIN−SOURCE DIODE CHARACTERISTICS						
Symbol	**Parameter**	**Condition**	**Min**	**Typ**	**Max**	**Unit**
t_{RR}	Reverse Recovery Time	V_{DD} = 48 V, I_D = 400 A V_{GS} = 14 V, $R_{G(on/off)}$ = 3.9/8.2	–	55	–	ns
Q_{RR}	Reverse Recovery Charge		–	2005	–	nC

5. Dynamic & Switching characteristics data is by characterization test result and guaranteed by design factors.

TYPICAL CHARACTERISTICS

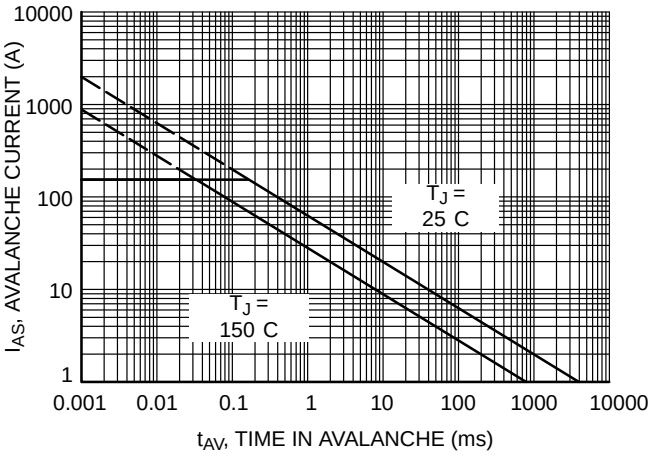

Figure 3. Unclamped Inductive Switching Capability

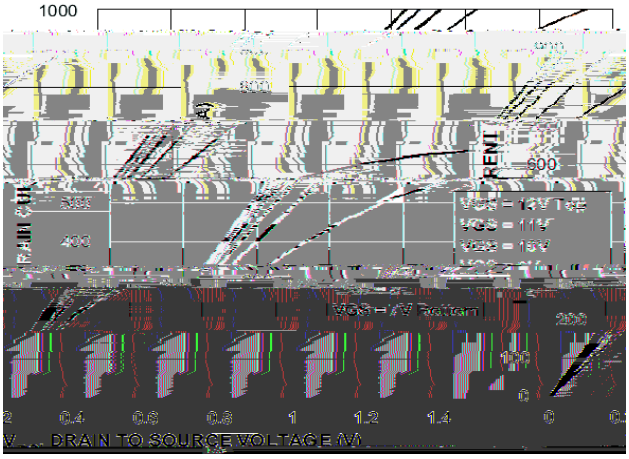

Figure 4. Saturation Characteristics

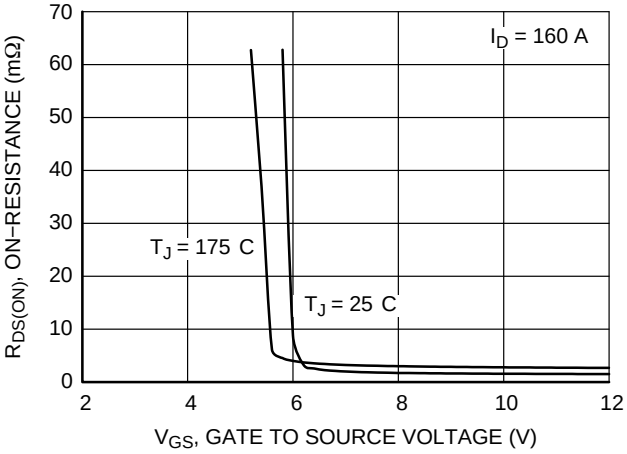

Figure 5. R_{DSON} vs. Gate Voltage

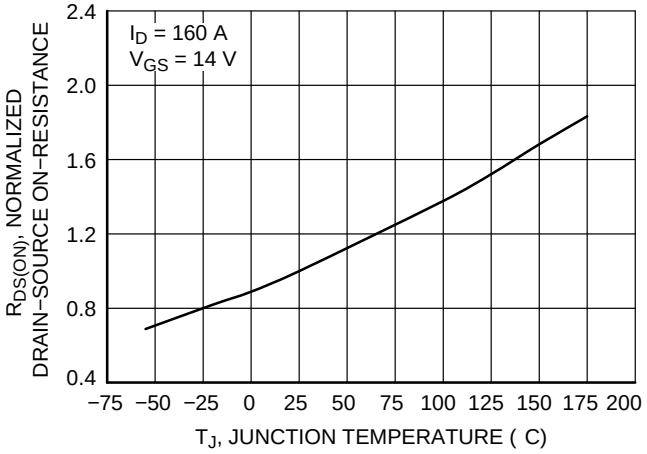

Figure 6. R_{DSON} vs. Temperature

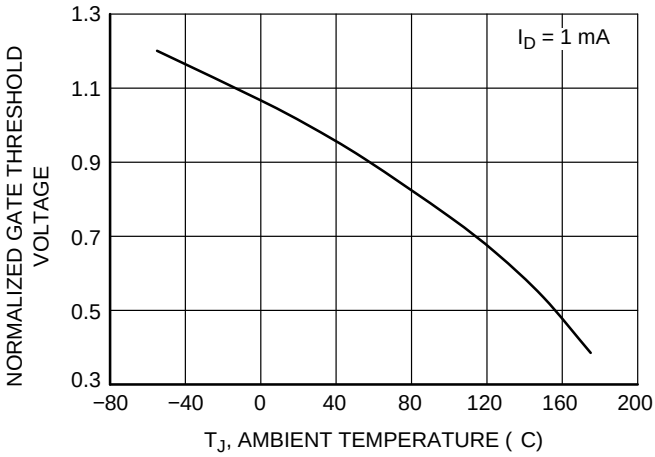

Figure 7. Normalized Gate Threshold Voltage vs. Temperature

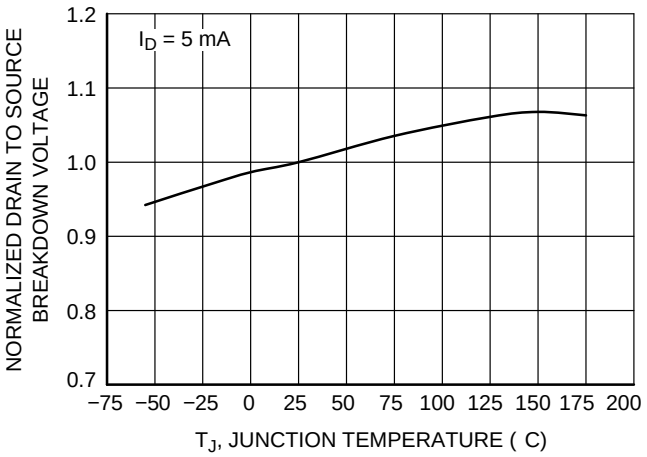

Figure 8. Normalized Drain to Source Breakdown Voltage vs. Junction Temperature

TYPICAL CHARACTERISTICS

APM17−MFA, AUTOMOTIVE MODULE
CASE MODBM
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DATE 12 OCT 2022