

NTBG022N120M3S

THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Case - Steady State (Note 2)	$R_{ ext{ heta}JC}$	0.34	°C/W
Junction-to-Ambient - Steady State (Notes 1, 2)	R_{\thetaJA}	40	

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Value	Unit
Operation Values of Gate-to-Source Voltage	V _{GSop}	-53 +18	V

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Тур	Max	Unit
OFF-STATE CHARACTERISTICS						
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	V_{GS} = 0 V, I_D = 1 mA	1200	-	-	V
Drain-to-Source Breakdown Voltage Temperature Coefficient	V _{(BR)DSS} /T _J	$I_D = 1 \text{ mA}$, referenced to 25°C (Note 7)	-	0.3	-	V/∘C
Zero Gate Voltage Drain Current	I _{DSS}	V_{GS} = 0 V, V_{DS} = 1200 V, T_{J} = 25°C	-	-	100	μΑ
Gate-to-Source Leakage Current	I _{GSS}	V_{GS} = +22/-10 V, V_{DS} = 0 V		-	±1	μΑ
ON-STATE CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	$V_{GS} = V_{DS}, I_D = 20 \text{ mA}$	2.04	2.72	4.4	V
Drain-to-Source On Resistance	R _{DS(on)}	V_{GS} = 18 V, I _D = 40 A, T _J = 25°C	-	22	30	mΩ
		V_{GS} = 18 V, I _D = 40 A, T _J = 175°C (Note 7)	-	44	-	1
Forward Transconductance	9 FS	V _{DS} = 10 V, I _D = 40 A (Note 7)	-	34	-	S
CHARGES, CAPACITANCES & GATE RE	SISTANCE					
Input Capacitance	C _{ISS}		-	3175	-	pF
Output Capacitance	C _{OSS}	V _{GS} = 0 V, f = 1 MHz, V _{DS} = 800 V (Note 7)	-	146	-	1
Reverse Transfer Capacitance	C _{RSS}		-	14	-	1
Total Gate Charge	Q _{G(TOT)}	1	-	142	-	nC
Threshold Gate Charge	Q _{G(TH)}	– V _{GS} = –3/18 V, V _{DS} = 800 V,	_	11	-	1
Gate-to-Source Charge	Q _{GS}	$I_D = 40 \text{ A}, \text{ (Note 7)}$	_	16	-	1
Gate-to-Drain Charge	Q _{GD}	1	-	38	-	1
Gate-Resistance	R _G	f = 1 MHz	-	1.5	_	Ω
SWITCHING CHARACTERISTICS						
Turn–On Delay Time	t _{d(ON)}		-	.1834	275.074	1 .907097E
		$\begin{array}{l} V_{GS} = -3/18 \ \text{V}, \\ V_{DS} = 800 \ \text{V}, \\ I_D = 40 \ \text{A}, \\ R_G = 4.5 \ \Omega \\ \text{inductive load (Notes 6, 7)} \end{array}$		_		

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ELECTRICAL CHARACTERISTICS (T_J = 25° C unless otherwise specified) (continued)

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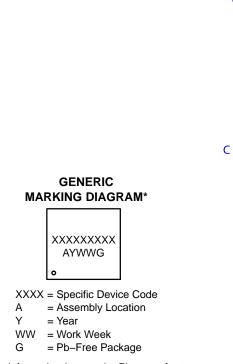
D²PAK7 (TO-263-7L HV) CASE 418BJ ISSUE B

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DATE 16 AUG 2019



*This information is generic. Please refer to device data sheet for actual part marking. Pb–Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

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