THERMAL CHARACTERISTICS

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

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Value	Unit
Operation Values of Gate−to−Source Voltage	V_{GSop}	−5…−3 +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	Typ	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 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	μA
Gate−to−Source Leakage Current	I_{GSS}	V_{GS} = +22/−10 V, V_{DS} = 0 V	−	−	±1	μA
ON−STATE CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} = V_{DS}, I_D = 20 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	−	
Forward Transconductance	g_{FS}	V_{DS} = 10 V, I_D = 40 A (Note 7)	−	34	−	S
CHARGES, CAPACITANCES & GATE RESISTANCE						
Input Capacitance	C_{ISS}	V_{GS} = 0 V, f = 1 MHz, V_{DS} = 800 V (Note 7)	−	3175	−	pF
Output Capacitance	C_{OSS}		−	146	−	
Reverse Transfer Capacitance	C_{RSS}		−	14	−	
Total Gate Charge	$Q_{G(TOT)}$	V_{GS} = −3/18 V, V_{DS} = 800 V, I_D = 40 A, (Note 7)	−	142	−	nC
Threshold Gate Charge	$Q_{G(TH)}$		−	11	−	
Gate−to−Source Charge	Q_{GS}		−	16	−	
Gate−to−Drain Charge	Q_{GD}		−	38	−	
Gate−Resistance	R_G	f = 1 MHz	−	1.5	−	Ω
SWITCHING CHARACTERISTICS						
Turn−On Delay Time	$t_{d(ON)}$	V_{GS} = −3/18 V, V_{DS} = 800 V, I_D = 40 A, R_G = 4.5 Ω inductive load (Notes 6, 7)	−			

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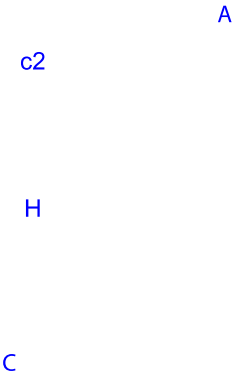
ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified) (continued)

Paramete

D^{2}PAK7 (TO−263−7L HV)
CASE 418BJ
ISSUE B

DATE 16 AUG 2019



GENERIC
MARKING DIAGRAM*

XXXX = Specific Device Code
A = Assembly Location
Y = Year
WW = Work Week
G = Pb−Free Package

*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.