Si7411DN vs. Si7401DN

Description: **P-Channel, 20 V (D-S) MOSFET**
Package: **PowerPAK® 1212-8**
Pin Out: **Identical**

Part Number Replacements

Si7411DN-T1-E3 Replaces Si7401DN-T1-E3
Si7411DN-T1-E3 Replaces Si7401DN-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si7411DN**	**Si7401DN**	**Unit**
Drain-Source Voltage		V_{DS}	- 20	- 20	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	- 11.4	- 11	A
	T_A = 85 °C		- 8.2	- 8.2	
Pulsed Drain Current		I_{DM}	- 30	- 30	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 3	- 3.2	
Power Dissipation	T_A = 25 °C	P_D	3.6	3.8	W
	T_A = 85 °C		1.9	2.0	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	35	33	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**Si7411DN**			**Si7401DN**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.4		- 1.0	- 0.45		- 1.0	V
Gate-Body Leakage		I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current		I_{DSS}			- 1			- 1	µA
On-State Drain Current	V_{GS} = - 4.5 V	$I_{D(on)}$	- 30			- 30			A
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.015	0.019		0.017	0.021	Ω
	V_{GS} = - 2.5 V			0.020	0.025		0.022	0.028	
	V_{GS} = - 1.8 V			0.027	0.034		0.027	0.034	
Forward Transconductance		g_{fs}		35			31		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 0.8	- 1.2	V
Dynamic									
Total Charge		Q_g		27	41		29	44	nC
Gate-Source Charge		Q_{gs}		3.9			5.9		
Gate-Drain Charge		Q_{gd}		7			5.2		
Gate Resistance		R_g		5			NS		
Switching									
Turn-On Time		$t_{d(on)}$		23	35		23	35	ns
		t_r		45	70		45	70	
Turn-Off Time		$t_{d(off)}$		135	200		130	195	
		t_f		70	105		95	140	
Source-Drain Reverse Recovery Time		t_{rr}		29	50		30	60	

Specification comparisons are supplied as a courtesy to compare two devices and do not constitute a commercial product datasheet or any guarantee of identical performance. Designers should refer to the appropriate datasheets of the same number for guaranteed specification limits.