Si7409ADN vs. Si7409DN

Description: **Single P-Channel, - 30 V (D-S) MOSFET**
Package: **PowerPAK® 1212-8**
Pin Out: **Identical**

Part Number Replacements:
Si7409ADN-T1-E (Lead (Pb)-free) Replaces Si7409DN-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si7409ADN**	**Si7409DN**	**Unit**
Drain-Source Voltage		V_{DS}	- 30	- 30	V
Gate-Source Voltage		V_{GS}	± 12	± 12	
Continuous Drain Current*	T_A = 25 °C	I_D	- 11	- 11	A
	T_A = 85 °C		- 7.9	- 7.9	
Pulsed Drain Current		I_{DM}	- 40	- 30	
Continuous Source Current* (MOSFET Diode Conduction)		I_S	- 3.2	- 3.2	
Power Dissipation	T_A = 25 °C	P_D	3.8	3.8	W
	T_A = 85 °C		2.0	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}	65	65	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**Si7409ADN**			**Si7409DN**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.6		- 1.5	- 0.6		- 1.5	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	$I_{D(on)}$	- 40			- 30			A
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.015	0.019		0.015	0.019	Ω
	V_{GS} = - 2.5 V			0.025	0.031		0.025	0.031	
Forward Transconductance		g_{fs}		40			40		S
Diode Forward Voltage		V_{SD}		- 0.7	- 1.2		- 0.7	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		25	40		25	40	nC
Gate-Source Charge		Q_{gs}		5			5		
Gate-Drain Charge		Q_{gd}		9			9		
Gate Resistance		R_g	3.3	6.5	10		NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		30	45		30	45	ns
		t_r		50	75		50	75	
Turn-Off Time		$t_{d(off)}$		115	175		115	175	
		t_f		75	115		75	115	
Source-Drain Reverse Recovery Time		t_{rr}		60	90		60	90	

NS denotes parameter not specified in original data sheet.

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.