Si7336ADP vs. Si7336DP

Description: **N-Channel MOSFET**
Package: **PowerPAK® SO-8**
Pin Out: **Identical**

Part Number Replacements

Si7336ADP-T1 Replaces Si7336DP-T1
Lead (Pb)-Free: Si7336ADP-T1-E3 Replaces Si7336DP-T1-E3

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si7336ADP**	**Si7336DP**	**Unit**
Drain-Source Voltage		V_{DS}	30	30	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current*	T_A = 25 °C	I_D	18	18	A
	T_A = 70 °C		15	15	
Pulsed Drain Current		I_{DM}	70	70	
Continuous Source Current* (MOSFET Diode Conduction)		I_S	1.8	1.8	
Avalanche Current	L = 0.1 mH	I_{AS}	50	NS**	
Power Dissipation	T_A = 25 °C	P_D	1.9	1.9	W
	T_A = 70 °C		1.2	1.2	
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
Maximum Junction-to-Case (Drain)*		R_{thJA}	1.5	1.5	

Notes:
* Indicates Steady State, all others are independent of time.
** NS denotes parameter not specified in original data sheet.

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**Si7864ADP**			**Si7864DP**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1.0		3.0	1.0		3.0	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} = 10 V	$I_{D(on)}$	30			30			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.0024	0.0030		0.0026	0.00325	Ω
	V_{GS} = 4.5 V			0.0031	0.0040		0.0033	0.0042	
Forward Transconductance		g_{fs}		110			110		S
Diode Forward Voltage		V_{SD}		0.72	1.1		0.72	1.1	V
Dynamic									
Total Gate Charge		Q_g		36	50		36	50	nC
Gate-Source Charge		Q_{gs}		18			18		
Gate-Drain Charge		Q_{gd}		10			10		
Gate Resistance		R_g	0.8	1.3	2.0	0.8	1.3	2.0	Ω
Input Capacitance		C_{iss}		5600			5600		pF
Output Capacitance		C_{oss}		860			860		
Reverse Transfer Capacitance		C_{rss}		415			415		
Switching									
Turn-On Time		$t_{d(on)}$		24	35		24	35	ns
		t_r		16	25		16	25	
Turn-Off Time		$t_{d(off)}$		90	140		90	140	
		t_f		32	50		32	50	
Source-Drain Reverse Recovery Time		t_{rr}		45	70		45	70	

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.