Si7852ADP vs. Si7852DP

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

Part Number Replacements: Si7852ADP-T1-E3 replaces Si7852DP-T1-E3
Si7852ADP-T1-E3 replaces Si7852DP-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si7852ADP**	**Si7852DP**	**UNIT**
Drain-Source Voltage		V_{DS}	80	80	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	T_A = 25 °C	I_D	12	12.5	A
	T_A = 70 °C		9.7	10	
Pulsed Drain Current		I_{DM}	60	50	
Continuous Source Current (MOSFET Diode Conduction)		I_S	4.5	4.7	
Power Dissipation	T_A = 25 °C	P_D	5	5.2	W
	T_A = 70 °C		3.2	3.3	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	25	24	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
PARAMETER		**SYMBOL**	**Si7852ADP**			**Si7852DP**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	2.5		4.5	2.0		NS	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			50			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.014	0.017		0.0135	0.0165	Ω
	V_{GS} = 4.5 V			0.016	0.021		0.0175	0.022	
Forward Transconductance		g_{fs}		25			25		S
Diode Forward Voltage		V_{SD}		0.77	1.1		0.75	1.1	V
Dynamic									
Total Gate Charge		Q_g		30.5	50		34	41	nC
Gate-Source Charge		Q_{gs}		9			7.5		
Gate-Drain Charge		Q_{gd}		8			11		
Gate Resistance		R_g		0.7		0.1	0.85	1	Ω

Note
NS denotes not specified in original datasheet

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.