Si7892BDP vs. Si7892ADP

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

Part Number Replacements:
Si7892BDP-T1-E3 Replaces Si7892ADP-T1-E3
Si7892BDP-T1 Replaces Si7892ADP-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**Si7892BDP**	**Si7892ADP**	**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	25	25	A
	T_A = 70 °C		20	20	
Pulsed Drain Current		I_{DM}	60	60	
Continuous Source Current (MOSFET Diode Conduction)		I_S	4.1	4.5	
Avalanche Current	L = 0.1 mH	I_{AS}	40	50	
Power Dissipation	T_A = 25 °C	P_D	5	5.4	W
	T_A = 70 °C		3.2	3.4	
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	23	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**Si7892BDP**			**Si7892ADP**			**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	$r_{DS(on)}$		0.0034	0.0042		0.0033	0.0042	Ω
	V_{GS} = 4.5 V			0.0047	0.0057		0.0045	0.0057	
Forward Transconductance		g_{fs}		85			80		S
Diode Forward Voltage		V_{SD}		0.75	1.2		0.75	1.2	V
Dynamic									
Input Capacitance		C_{iss}		3775			2800		pF
Output Capacitance		C_{oss}		630			830		
Reverse Transfer Capacitance		C_{rss}		295			360		
Total Gate Charge		Q_g		27	40		25	35	nC
Gate-Source Charge		Q_{gs}		11.4			6.7		
Gate-Drain Charge		Q_{gd}		8.1			9.7		
Gate Resistance		R_g	0.5	1.2	2.0	0.5	1.2	2.0	Ω
Switching									
Turn-On Time*		$t_{d(on)}$		20	30		17	30	ns
		t_r		13	20		10	20	
Turn-Off Time*		$t_{d(off)}$		62	100		65	130	
		t_f		20	35		35	60	
Source-Drain Reverse Recovery Time		t_{rr}		40	60		50	80	

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.