



Si7892BDP vs. Si7892DP

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

Si7892BDP-T1-E3 Replaces Si7892DP-T1-E3

Si7892BDP-T1-E3 Replaces Si7892DP-T1

Summary of Performance:

The Si7892BDP is the replacement to the original Si7892DP; both parts perform identically, including limits to the parametric tables below.

ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	Si7892BDP	Si7892DP	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	W
Power Dissipation	T _A = 25°C	P _D	5	5.4	
	T _A = 70°C		3.2	3.4	
Operating Junction & Storage Temperature Range		T _j & 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			Si7892DP			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		0.0037	0.0045	Ω
	V _{GS} = 4.5 V			0.0047	0.0057		0.0048	0.006	
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			NS		pF
Output Capacitance		C _{oss}		630			NS		
Reverse Transfer Capacitance		C _{rss}		295			NS		
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	NS	2.4	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	