



## 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 <sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	Si7892BDP	Si7892DP	Unit
Drain-Source Voltage		V <sub>DS</sub>	30	30	V
Gate-Source Voltage		V <sub>GS</sub>	±20	±20	
Continuous Drain Current	T <sub>A</sub> = 25°C	I <sub>D</sub>	25	25	A
	T <sub>A</sub> = 70°C		20	20	
Pulsed Drain Current		I <sub>DM</sub>	60	60	
Continuous Source Current (MOSFET Diode Conduction)		I <sub>S</sub>	4.1	4.5	
Avalanche Current	L = 0.1 mH	I <sub>AS</sub>	40	50	
Power Dissipation	T <sub>A</sub> = 25°C	P <sub>D</sub>	5	5.4	W
	T <sub>A</sub> = 70°C		3.2	3.4	
Operating Junction & Storage Temperature Range		T <sub>J</sub> & T <sub>stg</sub>	-55 to 150	-55 to 150	°C
Maximum Junction-to-Ambient		R <sub>thJA</sub>	25	23	°C/W

SPECIFICATIONS (T <sub>J</sub> = 25°C UNLESS OTHERWISE NOTED)									
Parameter	Symbol	Si7892BDP			Si7892DP			Unit	
		Min	Typ	Max	Min	Typ	Max		
<b>Static</b>									
Gate-Threshold Voltage	V <sub>GS(th)</sub>	1.0		3.0	1.0		3.0	V	
Gate-Body Leakage	I <sub>GSS</sub>			±100			±100	nA	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>			1			1	µA	
On-State Drain Current	V <sub>GS</sub> = 10 V	I <sub>D(on)</sub>	30		30			A	
Drain-Source On-Resistance	V <sub>GS</sub> = 10 V	r <sub>DS(on)</sub>		0.0034	0.0042		0.0037	0.0045	Ω
	V <sub>GS</sub> = 4.5 V			0.0047	0.0057		0.0048	0.006	
Forward Transconductance		g <sub>fs</sub>		85			80	S	
Diode Forward Voltage		V <sub>SD</sub>		0.75	1.2		0.75	1.2	V
<b>Dynamic</b>									
Input Capacitance	C <sub>iss</sub>		3775			NS		pF	
Output Capacitance	C <sub>oss</sub>		630			NS			
Reverse Transfer Capacitance	C <sub>rss</sub>		295			NS			
Total Gate Charge	Q <sub>g</sub>		27	40		25	35	nC	
Gate-Source Charge	Q <sub>gs</sub>		11.4			6.7			
Gate-Drain Charge	Q <sub>gd</sub>		8.1			9.7			
Gate Resistance	R <sub>g</sub>	0.5	1.2	2.0	0.5	NS	2.4	Ω	
<b>Switching</b>									
Turn-On Time*	t <sub>d(on)</sub>		20	30		17	30	ns	
	t <sub>r</sub>		13	20		10	20		
Turn-Off Time*	t <sub>d(off)</sub>		62	100		65	130		
	t <sub>f</sub>		20	35		35	60		
Source-Drain Reverse Recovery Time	t <sub>rr</sub>		40	60		50	80		