Si1304BDL vs. Si1304DL

Description: **N-Channel, 2.5 V (G-S) MOSFET**
Package: **SC70-3**
Pin Out: **Identical**

Part Number Replacements:

Si1304BDL-T1-E3 Replaces Si1304DL-T1-E3
Si1304BDL-T1-E3 Replaces Si1304DL-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si1304BDL**	**Si1304DL**	**Unit**
Drain-Source Voltage		V_{DS}	30	25	V
Gate-Source Voltage		V_{GS}	± 12	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	0.85	0.75	A
	T_A = 70 °C		0.68	0.60	
Pulsed Drain Current		I_{DM}	4.0	3.0	
Continuous Source Current (MOSFET Diode Conduction)		I_S	0.28	0.28	
Power Dissipation	T_A = 25 °C	P_D	0.34	0.33	W
	T_A = 70 °C		0.22	0.21	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	375	375	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
			Si1304BDL			**Si1304DL**			
Parameter		**Symbol**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	0.6		1.3	0.6		1.3	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} = 4.5 V	$I_{D(on)}$	4.0			3.0			A
Drain-Source On-Resistance	V_{GS} = 4.5 V	$r_{DS(on)}$		0.216	0.270		0.280	0.350	Ω
	V_{GS} = 2.5 V			0.308	0.385		0.355	0.450	
Forward Transconductance		g_{fs}		2			1.5		S
Diode Forward Voltage		V_{SD}		0.8	1.2		0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		1.8	2.7		1.3	2.0	nC
Gate-Source Charge		Q_{gs}		0.4			0.31		
Gate-Drain Charge		Q_{gd}		0.6			0.5		
Gate Resistance		R_g		1.5	2.3		NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		10	15		11	20	ns
		t_r		30	45		18	30	
Turn-Off Time		$t_{d(off)}$		5	7.5		17	30	
		t_f		10	15		11	20	
Source-Drain Reverse Recovery Time		t_{rr}		55	85		30	60	

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.