Si6954ADQ vs. Si6954DQ

Description: **Dual N-Channel, 30 V (D-S) MOSFET**
Package: **TSSOP-8**
Pin Out: **Identical**

Part Number Replacements

Si6954ADQ-T1-E3 Replaces Si6954DQ-T1-E3
Si6954ADQ-T1 Replaces Si6954DQ-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si6954ADQ**	**Si6954DQ**	**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	3.4	3.9	A
	T_A = 70 °C		2.7	3.1	
Pulsed Drain Current		I_{DM}	20	20	
Continuous Source Current (MOSFET Diode Conduction)		I_S	0.83	1.25	
Power Dissipation	T_A = 25 °C	P_D	1.0	1.0	W
	T_A = 70 °C		0.96	0.64	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	125	125	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**Si6954ADQ**			**Si6954DQ**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1			1.0			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	$I_{D(on)}$	20			15			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.044	0.053		0.043	0.065	Ω
	V_{GS} = 4.5 V			0.062	0.075		0.075	0.095	
Forward Transconductance		g_{fs}		10			7.0		S
Diode Forward Voltage		V_{SD}		0.8	1.2		0.77	1.2	V
Dynamic									
Total Charge		Q_g		8	16		9.8	15	nC
Gate-Source Charge		Q_{gs}		1.4			2.1		
Gate-Drain Charge		Q_{gd}		1.2			1.6		
Switching									
Turn-On Time		$t_{d(on)}$		12	20		9	15	ns
		t_r		10	20		6	12	
Turn-Off Time		$t_{d(off)}$		23	45		18	27	
		t_f		8	15		6	12	
Source-Drain Reverse Recovery Time		t_{rr}		25	40		48	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.