Si6924AEDQ vs. Si6924EDQ

Description: N-Channel, 2.5 V (G-S) Battery Switch with ESD Protection
Package: TSSOP-8
Pin Out: Identical

Part Number Replacements:
Si6924AEDQ-T1 Replaces Si6924EDQ-T1
Si6924AEDQ-T1-E3 (Lead (Pb)-free version) Replaces Si6924EDQ-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted

Parameter		Symbol	Si6924AEDQ	Si6924EDQ	Unit
Drain-Source Voltage		V_{DS}	28	28	V
Gate-Source Voltage		V_{GS}	± 14	± 14	
Continuous Drain Current	T_A = 25 °C	I_D	4.6	4.6	A
	T_A = 70 °C		3.7	3.7	
Pulsed Drain Current		I_{DM}	20	20	
Continuous Source Current (MOSFET Diode Conduction)		I_S	1.2	1.25	
Power Dissipation	T_A = 25 °C	P_D	1.3	1.1	W
	T_A = 70 °C		0.84	0.72	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	95	125	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted

Parameter		Symbol	Si6924AEDQ			Si6924EDQ			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
Gate-Threshold Voltage		$V_{G(th)}$	0.6		1.5	0.5			V
Gate-Body Leakage	V_{GS} = 4.5 V	I_{GSS}			± 1			± 1	nA
	V_{GS} = 14 V				± 20			± 10	mA
Zero Gate Voltage Drain Current		I_{DSS}			1			1	µA
On-State Drain Current	V_{GS} = 5 V	$I_{D(on)}$	10			10			A
Drain-Source On-Resistance	V_{GS} = 4.5 V	$r_{DS(on)}$		0.022	0.033		0.026	0.033	Ω
	V_{GS} = 3.0 V			0.025	0.038		0.029	0.038	
	V_{GS} = 2.5 V			0.029	0.042		0.031	0.042	
Forward Transconductance		g_{fs}		25			18		S
Diode Forward Voltage		V_{SD}		0.7	1.1		0.7	1.1	V
Dynamic									
Total Gate Charge		Q_g		6.5	10		14	20	nC
Gate-Source Charge		Q_{gs}		1.2			2.1		
Gate-Drain Charge		Q_{gd}		1.5			4.2		
Switching									
Turn-On Time		$t_{d(on)}$		0.95	1.5		0.55	1.0	µs
		t_r		1.4	2.1		2.0	4.0	
Turn-Off Time		$t_{d(off)}$		7	11		7.0	12	
		t_f		3.1	5		4.5	8	

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.