



Si6880AEDQ vs. Si6880EDQ

Description: N-Channel, 1.8-V (G-S) Battery Switch with ESD Protection
Package: TSSOP-8
Pin Out: Identical

Part Number Replacements:

Si6880AEDQ-T1 Replaces Si6880EDQ-T1
 Si6880AEDQ-T1—E3 (Lead Free version) Replaces Si6880EDQ-T1

Summary of Performance:

The Si6880AEDQ is the replacement for the original Si6880EDQ; both parts perform identically including limits to the parametric tables below.

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	Si6880AEDQ	Si6880EDQ	Unit
Drain-Source Voltage	V _{DS}	20	20	V
Gate-Source Voltage	V _{GS}	± 12	± 12	
Continuous Drain Current	T _A = 25 °C	7.2	7.5	A
	T _A = 70 °C	5.7	6	
Pulsed Drain Current	I _{DM}	30	30	
Continuous Source Current (MOSFET Diode Conduction)	I _S	1.5	1.6	
Power Dissipation	T _A = 25 °C	1.5	1.78	W
	T _A = 70 °C	0.96	1.14	
Operating Junction and Storage Temperature Range	T _J and T _{stg}	-55 to 150	-55 to 150	°C
Maximum Junction-to-Ambient	R _{thJA}	84	70	°C/W

SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)									
Parameter	Symbol	Si6880AEDQ			Si6880EDQ			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Gate-Threshold Voltage	V _{G(th)}	0.8		0.9	0.45				V
Gate-Body Leakage	V _{GS} = 4.5 V			± 1000				± 250	nA
	V _{GS} = 12 V			± 10				± 10	mA
Zero Gate Voltage Drain Current	I _{DSS}			1				1	µA
On-State Drain Current	V _{GS} = 4.5 V	I _{D(on)}	20		20				A
Drain-Source On-Resistance	V _{GS} = 4.5 V	r _{DS(on)}		0.014	0.018		0.015	0.018	Ω
	V _{GS} = 2.5 V			0.016	0.022		0.017	0.022	
	V _{GS} = 1.8 V			0.018	0.025		0.020	0.016	
Forward Transconductance		g _{fs}		45			39		S
Diode Forward Voltage		V _{SD}		0.61	1.1		0.65	1.1	V
Dynamic									
Total Gate Charge		Q _g		22	35		27	40	nC
Gate-Source Charge		Q _{gs}		2.0			3.0		
Gate-Drain Charge		Q _{gd}		3.6			5.5		
Switching									
Turn-On Time		t _{d(on)}		1.0	1.5		1.5	2.3	µs
		t _r		1.6	2.5		800	1200	
Turn-Off Time		t _{d(off)}		6	10		6	10	
		t _f		5.5	10		5.5	10	