Si6466ADQ vs. Si6466DQ

Description: **N-Channel, 2.5 V (G-S) MOSFET**
Package: **TSSOP-8**
Pin Out: **Identical**

Part Number Replacements

Si6466ADQ-T1-E3 Replaces Si6466DQ-T1-E3
Si6466ADQ-T1 Replaces Si6466DQ-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si6466ADQ**	**Si6466DQ**	**Unit**
Drain-Source Voltage		V_{DS}	20	20	V
Gate-Source Voltage		V_{GS}	± 8	± 12	
Continuous Drain Current	T_A = 25 °C	I_D	8.1	7.8	A
	T_A = 70 °C		6.6	6.2	
Pulsed Drain Current		I_{DM}	30	30	
Continuous Source Current (MOSFET Diode Conduction)		I_S	1.35	1.50	
Power Dissipation	T_A = 25 °C	P_D	1.5	1.5	W
	T_A = 70 °C		1.0	1.0	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	83	83	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**Si6466ADQ**			**Si6466DQ**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	0.45			0.6			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[1]			20			A
Drain-Source On-Resistance	V_{GS} = 4.5 V	$r_{DS(on)}$		0.011	0.014		0.0105	0.014	Ω
	V_{GS} = 2.5 V			0.017	0.020		0.0135	0.021	
Forward Transconductance		g_{fs}		30			45		S
Diode Forward Voltage		V_{SD}		0.65	1.1		0.7	1.1	V
Dynamic									
Total Charge		Q_g[2]		18	27		34	60	nC
Gate-Source Charge		Q_{gs}		3.2			6.7		
Gate-Drain Charge		Q_{gd}		4			8.1		
Gate Resistance		R_g	0.5		1.8	0.2		1.9	Ω
Switching									
Turn-On Time[3]		$t_{d(on)}$		27	45		19	40	ns
		t_r		34	50		30	60	
Turn-Off Time[3]		$t_{d(off)}$		76	120		130	250	
		t_f		30	50		40	80	
Source-Drain Reverse Recovery Time		t_{rr}		35	70		50	80	

1. For the Si6466ADQ, V_{GS} = 4.5 V.

2. For the Si6466ADQ, V_{GS} = 5 V. For the Si6466DQ, V_{GS} = 4.5 V.

3. For the Si6466ADQ, V_{GS} = 4.5 V. For the Si6466DQ, V_{GS} = 10 V.

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.