



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 ($T_A = 25\text{ }^{\circ}\text{C}$, 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	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	8.1	7.8	A
	$T_A = 70\text{ }^{\circ}\text{C}$		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	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	1.5	1.5	W
	$T_A = 70\text{ }^{\circ}\text{C}$		1.0	1.0	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	$^{\circ}\text{C}$
Maximum Junction-to-Ambient		R_{thJA}	83	83	$^{\circ}\text{C/W}$

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, $V_{GS} = 4.5\text{ V}$.2. For the Si6466ADQ, $V_{GS} = 5\text{ V}$. For the Si6466DQ, $V_{GS} = 4.5\text{ V}$.3. For the Si6466ADQ, $V_{GS} = 4.5\text{ V}$. For the Si6466DQ, $V_{GS} = 10\text{ V}$.

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.