



Si6562CDQ vs. Si6562DQ

Description: N- and P-Channel, 20-V (D-S) MOSFET

Package: TSSOP-8

Pin Out: Identical

Part Number Replacements: Si6562CDQ-T1-GE3 replaces Si6562DQ-T1-GE3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)					
PARAMETER		SYMBOL	Si6562CDQ	Si6562DQ	UNIT
Drain-Source Voltage		V_{DS}	N-Ch	20	V
			P-Ch	- 20	
Gate-Source Voltage		V_{GS}	N-Ch	± 12	V
			P-Ch	± 12	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	N-Ch	5.7	A
			P-Ch	- 5.1	
	$T_A = 70\text{ }^\circ\text{C}$		N-Ch	4.5	
			P-Ch	- 4.1	
Pulsed Drain Current		I_{DM}	N-Ch	30	A
			P-Ch	- 30	
Continuous Source Current (MOSFET Diode Conduction)		I_S	N-Ch	0.9	A
			P-Ch	- 1.0	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	N-Ch	1.1	W
			P-Ch	2	
	$T_A = 70\text{ }^\circ\text{C}$		N-Ch	0.7	0.64
			P-Ch	0.76	
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}	N-Ch	110	$^\circ\text{C/W}$
			P-Ch	105	

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)										
PARAMETER	SYMBOL	Si6562CDQ			Si6562DQ			UNIT		
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.			
Static										
Gate-Threshold Voltage	$V_{GS(th)}$	N-Ch	0.6		1.5	0.6		NS	V	
		P-Ch	- 0.6		- 1.5	- 0.6		NS		
Gate-Body Leakage	I_{GSS}	N-Ch			± 100			± 100	nA	
		P-Ch			± 100			± 100		
Zero Gate Voltage Drain Current	I_{DSS}	N-Ch			1			1	μA	
		P-Ch			- 1			- 1		
On-State Drain Current	$V_{GS} = 4.5\text{ V}$ $V_{GS} = - 4.5\text{ V}$	$I_{D(on)}$	N-Ch	30			30		A	
			P-Ch	- 30			- 30			
Drain-Source On-Resistance	$V_{GS} = 4.5\text{ V}$ $V_{GS} = - 4.5\text{ V}$ $V_{GS} = 2.5\text{ V}$ $V_{GS} = - 2.5\text{ V}$	$R_{DS(on)}$	N-Ch		0.018	0.022		0.023	0.030	Ω
			P-Ch		0.024	0.030		0.040	0.050	
			N-Ch		0.029	0.036		0.030	0.040	
			P-Ch		0.036	0.045		0.060	0.085	
Forward Transconductance		g_{fs}	N-Ch		17			20	S	
			P-Ch		22			10		
Diode Forward Voltage		V_{SD}	N-Ch		0.8	1.2		0.65	1.2	V
			P-Ch		- 0.8	- 1.2		- 0.72	- 1.2	



SPECIFICATIONS (T _J = 25 °C, unless otherwise noted)								
PARAMETER	SYMBOL	Si6562CDQ			Si6562DQ			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Dynamic								
Total Gate Charge	Q _g	N-Ch	6.7	11		13	25	nC
		P-Ch	17	30		14.5	25	
Gate-Source Charge	Q _{gs}	N-Ch	1.8			3.0		
		P-Ch	3			3.5		
Gate-Drain Charge	Q _{gd}	N-Ch	0.9			3.3		
		P-Ch	5.5			3.5		
Gate Resistance	R _g	N-Ch	2			NS		Ω
		P-Ch	6			NS		

Note

NS denotes not specified in original specification

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.