



Si1016CX vs. Si1016X

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

Package: SC-89

Pin Out: Identical

Part Number Replacements: Si1016CX-T1-GE3 replaces Si1016X-T1-GE3

ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C, unless otherwise noted)							
PARAMETER			SYMBOL		Si1016CX	Si1016X	UNIT
Drain-Source Voltage			V _{DS}	N-CH	20	20	V
				P-CH	- 20	- 20	
Gate-Source Voltage			V _{GS}	N-CH	± 8	± 6	
				P-CH			
Continuous Drain Current		T _A = 25 °C	I _D	N-CH	0.6	0.515	A
				P-CH	- 0.6	- 0.390	
		T _A = 70 °C		N-CH	0.49	0.37*	
				P-CH	- 0.49	- 0.28*	
Pulsed Drain Current			I _{DM}	N-CH	2	± 0.65	
				P-CH	- 1.5		
Continuous Source Current (MOSFET Diode Conduction)			I _S	N-CH	0.18	0.45	
				P-CH	- 0.18	- 0.45	
Power Dissipation		T _A = 25 °C	P _D		0.22	0.28	W
		T _A = 70 °C			0.14	0.145*	
Operating Junction and Storage Temperature Range			T _J , T _{stg}		- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient			R _{thJA}		565	NS	°C/W

SPECIFICATIONS (T _J = 25 °C, unless otherwise noted)										
PARAMETER		SYMBOL		Si1016CX			Si1016X			UNIT
				MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static										
Gate-Threshold Voltage		V _{GS(th)}	N-CH	0.4	-	1	0.45	-	1	V
			P-CH	- 0.4	-	- 1	- 0.45	-	- 1	
Gate-Body Leakage		I _{GSS}	N-CH	-	-	± 1	-	± 0.5	± 1	μA
			P-CH	-	-	± 1	-	± 1	± 2	
Zero Gate Voltage Drain Current		I _{DSS}	N-CH	-	-	1	-	-	0.1	μA
			P-CH	-	-	- 1	-	-	- 0.1	
On-State Drain Current	V _{GS} = 4.5 V	I _{D(on)}	N-CH	2	-	-	0.7	-	-	A
	V _{GS} = - 4.5 V		P-CH	- 1.5	-	-	- 0.7	-	-	
Drain-Source On-Resistance	V _{GS} = 4.5 V	R _{DS(on)}	N-CH	-	0.330	0.396	-	0.41	0.70	Ω
	V _{GS} = - 4.5V		P-CH	-	0.630	0.756	-	0.80	1.20	
	V _{GS} = 2.5 V		N-CH	-	0.380	0.456	-	0.53	0.85	
	V _{GS} = - 2.5 V		P-CH	-	0.865	1.038	-	1.2	1.6	
	V _{GS} = 1.8 V		N-CH	-	0.420	0.546	-	0.70	1.25	
	V _{GS} = - 1.8 V		P-CH	-	1.20	1.44	-	1.8	2.7	
	V _{GS} = 1.5 V		N-CH	-	0.505	0.760	-	NS	NS	
	V _{GS} = - 1.5 V		P-CH	-	1.6	2.4	-	NS	NS	

Specification Comparison

Vishay Siliconix



SPECIFICATIONS (T _J = 25 °C, unless otherwise noted)									
PARAMETER	SYMBOL		Si1016CX			Si1016X			UNIT
			MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Forward Transconductance	g _{fs}	N-CH	-	2	-	-	1	-	S
		P-CH	-	1	-	-	0.4	-	
Diode Forward Voltage	V _{SD}	N-CH	-	0.85	1.2	-	0.8	1.2	V
		P-CH	-	- 0.87	- 1.2	-	- 0.8	- 1.2	
Dynamic									
Total Gate Charge	Q _g	N-CH	-	0.75	1.2	-	0.75	-	nC
		P-CH	-	1	2	-	1.5	-	
Gate-Source Charge	Q _{gs}	N-CH	-	0.15	-	-	0.075	-	
		P-CH	-	0.2	-	-	0.150	-	
Gate-Drain Charge	Q _{gd}	N-CH	-	0.13	-	-	0.225	-	
		P-CH	-	0.26	-	-	0.450	-	
Gate Resistance	R _g	N-CH	2.4	12.2	24.4	-	NS	NS	Ω
		P-CH	2.4	12	24	-	NS	NS	

Notes

* $T_A = 85\text{ }^{\circ}\text{C}$

NS denotes parameter not specified in original datasheet.

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.