



Si4403CDY vs. Si4403BDY

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

Package: SO-8

Pin Out: Identical

Part Number Replacements: Si4403CDY-T1-GE3 replaces Si4403BDY-T1-GE3
Si4403CDY-T1-GE3 replaces Si4403BDY-T1-E3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)				
PARAMETER	SYMBOL	Si4403CDY	Si4403BDY	UNIT
Drain-Source Voltage	V_{DS}	- 20	- 20	V
Gate-Source Voltage	V_{GS}	± 8	± 8	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	- 9.4	- 9.9	A
	$T_A = 70\text{ }^\circ\text{C}$	- 7.5	- 7.9	
Pulsed Drain Current	I_{DM}	- 40	- 30	
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 2.1	- 2.3	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	2.5	2.5	W
	$T_A = 70\text{ }^\circ\text{C}$	1.6	1.6	
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}	50	50	$^\circ\text{C/W}$

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)								
PARAMETER	SYMBOL	Si4403CDY			Si4403BDY			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	- 0.4		- 1	- 0.45		- 1	V
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA
On-State Drain Current	$V_{GS} = - 4.5\text{ V}$ $I_{D(on)}$	- 20 ^a			- 20			A
Drain-Source On-Resistance	$V_{GS} = - 4.5\text{ V}$ $R_{DS(on)}$		0.0125	0.0155		0.014	0.017	Ω
	$V_{GS} = - 2.5\text{ V}$		0.0155	0.0195		0.018	0.023	
	$V_{GS} = - 1.8\text{ V}$		0.0195	0.025		0.024	0.032	
Forward Transconductance	g_{fs}		40			36		S
Diode Forward Voltage	V_{SD}		- 0.66	- 1.2		- 0.8	- 1.1	V
Dynamic								
Total Gate Charge ^a	Q_g		36.5	55		33 ^a	50 ^a	nC
Gate-Source Charge	Q_{gs}		3.1			4.2		
Gate-Drain Charge	Q_{gd}		9.9			7.6		
Gate Resistance	R_g	1	4.8	9.6		NS		

Notes

a. $V_{GS} = 5\text{ V}$.

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.