



Si4463CDY vs. Si4463BDY

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

Package: SO-8

Pin Out: Identical

Part Number Replacements: Si4463CDY-T1-GE3 replaces Si4463BDY-T1-GE3
Si4463CDY-T1-GE3 replaces Si4463BDY-T1-E3

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)				
PARAMETER	SYMBOL	Si4463CDY	Si4463BDY	UNIT
Drain-Source Voltage	V_{DS}	- 20	- 20	V
Gate-Source Voltage	V_{GS}	± 12	± 12	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	- 13.6	- 13.7	A
	$T_A = 70\text{ }^\circ\text{C}$	- 10.8	- 11.1	
Pulsed Drain Current	I_{DM}	- 60	- 50	
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 2.4	- 2.3	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	2.7	3.0	W
	$T_A = 70\text{ }^\circ\text{C}$	1.7	1.9	
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}	46	42	$^\circ\text{C/W}$

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)								
PARAMETER	SYMBOL	Si4463CDY			Si4463BDY			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	- 0.6		- 1.4	- 0.6		- 1.4	V
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA
On-State Drain Current	$V_{GS} = - 10\text{ V}$ $I_{D(on)}$	- 30			- 30 ^a			A
Drain-Source On-Resistance	$V_{GS} = - 10\text{ V}$ $R_{DS(on)}$		0.0060	0.0080		0.0085	0.011	Ω
	$V_{GS} = - 4.5\text{ V}$		0.0073	0.0100		0.010	0.014	
	$V_{GS} = - 2.5\text{ V}$		0.011	0.014		0.015	0.020	
Forward Transconductance	g_{fs}		60			44		S
Diode Forward Voltage	V_{SD}		- 0.7	- 1.1		- 0.7	- 1.1	V
Dynamic								
Total Gate Charge ^a	Q_g		54	81		37	56	nC
Gate-Source Charge	Q_{gs}		7.8			8.7		
Gate-Drain Charge	Q_{gd}		18.5			11		
Gate Resistance	R_g	0.5	2.3	4.6		2.7		

Notes

a. $V_{GS} = 4.5\text{ V}$.

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.