



Si4340CDY vs. Si4340DY

Description: Dual N-Channel, 20-V (D-S) MOSFET with Schottky Diode

Package: SO-14

Pin Out: Identical

Part Number Replacements: Si4340CDY-T1-E3 replaces Si4340DY-T1-E3
Si4340CDY-T1-E3 replaces Si4340DY-T1

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted					
PARAMETER		SYMBOL	Si4340CDY	Si4340DY	UNIT
Drain-Source Voltage		V_{DS}	Ch-1	20	V
			Ch-2	20	
Gate-Source Voltage		V_{GS}	Ch-1	± 20	V
			Ch-2	± 16	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	Ch-1	11.5	A
			Ch-2	15.2	
	$T_A = 70\text{ }^\circ\text{C}$		Ch-1	9.2	
			Ch-2	12.2	
Pulsed Drain Current		I_{DM}	Ch-1	40	A
			Ch-2	50	
Continuous Source Current (MOSFET Diode Conduction)		I_S	Ch-1	1.7	A
			Ch-2	2.5	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	Ch-1	2.0	W
			Ch-2	3.0	
	$T_A = 70\text{ }^\circ\text{C}$		Ch-1	1.3	
			Ch-2	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}	Ch-1	62.5	$^\circ\text{C/W}$
			Ch-2	42	

SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted								
PARAMETER	SYMBOL	Si4340CDY			Si4340DY			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	Ch-1	1	3	0.8	2.0	V	
		Ch-2	0.8	2.2	0.8	1.9		
Gate-Body Leakage	I_{GSS}	Ch-1		± 100		± 100	nA	
		Ch-2		± 100		± 100		
Zero Gate Voltage Drain Current	I_{DSS}	Ch-1		1		1	μA	
		Ch-2		1		100		
On-State Drain Current	$V_{GS} = 10\text{ V}$	$I_{D(on)}$	Ch-1	20		20	A	
			Ch-2	30		30		
Drain-Source On-Resistance	$V_{GS} = 10\text{ V}$	$R_{DS(on)}$	Ch-1	0.0077	0.0094	0.0095	0.012	Ω
			Ch-2	0.0065	0.008	0.007	0.010	
	$V_{GS} = 4.5\text{ V}$		Ch-1	0.010	0.0125	0.0135	0.0175	
			Ch-2	0.0075	0.0095	0.0085	0.0115	
Forward Transconductance		g_{fs}	Ch-1	45		25	S	
			Ch-2	73		38		
Diode Forward Voltage		V_{SD}	Ch-1	0.8	1.2	0.74	1.1	V
			Ch-2	0.45	0.55	0.485	0.53	

Specification Comparison

Vishay Siliconix



SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted									
PARAMETER	SYMBOL	Si4340CDY			Si4340DY			UNIT	
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Dynamic									
Total Gate Charge	Q_g	Ch-1		9.6	15		10	15	nC
		Ch-2		14.1	22		17	25	
Gate-Source Charge	Q_{gs}	Ch-1		4			3.3		
		Ch-2		5			4.5		
Gate-Drain Charge	Q_{gd}	Ch-1		3			3.1		
		Ch-2		3.5			4.5		
Gate Resistance	R_g	Ch-1		0.65	1.2	0.45	0.9	1.35	Ω
		Ch-2		1.4	2.8	0.7	1.4	2.1	

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.