



Si9435BDY vs. Si9435DY

Description: P-Channel, 30 V (D-S) MOSFET

Package: SOIC-8

Pin Out: Identical

Part Number Replacements:

Si9435BDY Replaces Si9435DY

Si9435BDY-E3 (Lead (Pb)-free version) Replaces Si9435DY

Si9435BDY-T1 Replaces Si9435DY-T1

Si9435BDY-T1-E3 (Lead (Pb)-free version) Replaces Si9435DY-T1

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted				
Parameter	Symbol	Si9435BDY	Si9435DY	Unit
Drain-Source Voltage	V_{DS}	- 30	- 30	V
Gate-Source Voltage	V_{GS}	± 20	± 20	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	- 5.7	- 5.1	A
	$T_A = 70\text{ }^\circ\text{C}$	- 4.6	- 4.6	
Pulsed Drain Current	I_{DM}	- 30	- 20	
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 2.3	- 2.6	
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	Si9435BDY			Si9435DY			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Gate-Threshold Voltage	$V_{GS(th)}$	- 1.0		- 3.0	- 1.0			V	
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA	
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA	
On-State Drain Current	$V_{GS} = - 10\text{ V}$	$I_{D(on)}$	- 20		- 20			A	
	$V_{GS} = - 4.5\text{ V}$		NS		- 5				
Drain-Source On-Resistance	$V_{GS} = - 10\text{ V}$	$r_{DS(on)}$		0.033	0.042		0.037	0.055	Ω
	$V_{GS} = - 6\text{ V}$			0.043	0.055		0.047	0.07	
	$V_{GS} = - 4.5\text{ V}$			0.056	0.070		0.060	0.105	
Forward Transconductance	g_{fs}		13			9		S	
Diode Forward Voltage	V_{SD}		- 0.8	- 1.1		- 0.88	- 1.2	V	
Dynamic									
Total Gate Charge	Q_g		16	24		27	40	nC	
Gate-Source Charge	Q_{gs}		2.3			4			
Gate-Drain Charge	Q_{gd}		4.5			6.3			
Gate Resistance	R_g		8.8			NS		Ω	
Switching									
Turn-On Time	$t_{d(on)}$		14	25		14	30	ns	
	t_r		14	25		13	60		
Turn-Off Time	$t_{d(off)}$		42	70		58	120		
	t_f		30	50		21	100		
Source-Drain Reverse Recovery Time	t_{rr}		30	60		65	100		

NS denotes parameter not specified in original data sheet.

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.