



Si4425DDY vs. Si4425BDY

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

Package: SO-8

Pin Out: Identical

Part Number Replacements: Si4425DDY-T1-GE3 replaces Si4425BDY-T1-E3
Si4425DDY-T1-GE3 replaces Si4425BDY-T1-GE3

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted					
PARAMETER	SYMBOL	Si4425DDY	Si4425BDY	UNIT	
Drain-Source Voltage	V_{DS}	- 30	- 30	V	
Gate-Source Voltage	V_{GS}	± 20	± 20		
Continuous Drain Current	I_D	$T_A = 25\text{ }^\circ\text{C}$	- 13	- 11.4	A
		$T_A = 70\text{ }^\circ\text{C}$	- 10.4	- 9.1	
Pulsed Drain Current	I_{DM}	- 50	- 50		
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 2.1	- 2.1		
Power Dissipation	P_D	$T_A = 25\text{ }^\circ\text{C}$	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	Si4425DDY			Si4425BDY			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	- 1.2		- 2.5	- 1.0		- 3.0	V
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA
On-State Drain Current	$V_{GS} = - 10\text{ V}$ $I_{D(on)}$	- 30			- 50			A
Drain-Source On-Resistance	$V_{GS} = - 10\text{ V}$ $R_{DS(on)}$		0.0081	0.0098		0.010	0.012	Ω
	$V_{GS} = - 4.5\text{ V}$		0.0137	0.0165		0.015	0.019	
Forward Transconductance	g_{fs}		40			29		S
Diode Forward Voltage	V_{SD}		- 0.8	- 1.2		- 0.8	- 1.2	V
Dynamic								
Total Gate Charge	Q_g		53	80		64	100	nC
Gate-Source Charge	Q_{gs}		8			11		
Gate-Drain Charge	Q_{gd}		13			17		
Gate Resistance	R_g	0.4	2.1	4.2		NS		

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.