Si3442BDV vs. Si3442DV

Description: **N-Channel, 2.5 V (G-S) MOSFET**
Package: **TSOP-6**
Pin Out: **Identical**

Part Number Replacements:
SSi3442BDV-T1 Replaces Si3442DV-T1
Si3442BDV-T1-E3 (Lead (Pb)-free version) Replaces Si3442DV-T1-E3 (Lead (Pb)-free version)

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted

Parameter		Symbol	Si3442BDV	Si3442DV	Unit
Drain-Source Voltage		V_{DS}	20	20	V
Gate-Source Voltage		V_{GS}	± 12	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	4.2	4.0	A
	T_A = 70 °C		3.4	3.1	
Pulsed Drain Current		I_{DM}	20	20	
Continuous Source Current (MOSFET Diode Conduction)		I_S	1.4	1.6	
Power Dissipation	T_A = 25 °C	P_D	1.67	2.0	W
	T_A = 70 °C		1.07	1.28	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	100	62.5	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted

Parameter		Symbol	Si3442BDV			Si3442DV			Unit
			Min	Typ	Max	Min	Typ	Max	
Static									
Gate-Threshold Voltage		$V_{G(th)}$	0.6		1.8	0.6			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 V	$I_{D(on)}$	10			10			A
	V_{GS} = 2.5 V		4			4			
Drain-Source On-Resistance	V_{GS} = 4.5 V	$r_{DS(on)}$		0.045	0.057		0.058	0.07	Ω
	V_{GS} = 2.5 V			0.070	0.090		0.072	0.095	
Forward Transconductance		g_{fs}		11.3			11.3		S
Diode Forward Voltage		V_{SD}		0.75	1.2		0.75	1.2	V
Dynamic									
Total Gate Charge		Q_g		3	5		7.0	10	nC
Gate-Source Charge		Q_{gs}		0.65			1.1		
Gate-Drain Charge		Q_{gd}		0.95			2.0		
Gate Resistance		R_g		2.7			NS		Ω
Switching									
Turn-On Time		$t_{d(on)}$		35	55		8	20	ns
		t_r		50	75		24	40	
Turn-Off Time		$t_{d(off)}$		20	30		35	60	
		t_f		15	25		10	20	
Source-Drain Reverse Recovery Time		t_{rr}		30	60		40	70	

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.