



## 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)

<b>ABSOLUTE MAXIMUM RATINGS</b> $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise noted				
Parameter	Symbol	Si3442BDV	Si3442DV	Unit
Drain-Source Voltage	$V_{DS}$	20	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	$\pm 8$	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	$I_D$	4.2	A
	$T_A = 70\text{ }^\circ\text{C}$		3.4	
Pulsed Drain Current	$I_{DM}$	20	20	
Continuous Source Current (MOSFET Diode Conduction)	$I_S$	1.4	1.6	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	$P_D$	1.67	W
	$T_A = 70\text{ }^\circ\text{C}$		1.07	
Operating Junction and Storage Temperature Range	$T_J$ and $T_{stg}$	- 55 to 150	- 55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient	$R_{thJA}$	100	62.5	$^\circ\text{C/W}$

<b>SPECIFICATIONS</b> $T_J = 25\text{ }^\circ\text{C}$ , unless otherwise noted									
Parameter	Symbol	Si3442BDV			Si3442DV			Unit	
		Min	Typ	Max	Min	Typ	Max		
<b>Static</b>									
Gate-Threshold Voltage	$V_{G(th)}$	0.6		1.8	0.6			V	
Gate-Body Leakage	$I_{GSS}$			$\pm 100$			$\pm 100$	nA	
Zero Gate Voltage Drain Current	$I_{DSS}$			1			1	$\mu\text{A}$	
On-State Drain Current	$V_{GS} = 4.5\text{ V}$	$I_{D(on)}$	10		10			A	
	$V_{GS} = 2.5\text{ V}$		4		4				
Drain-Source On-Resistance	$V_{GS} = 4.5\text{ V}$	$r_{DS(on)}$		0.045	0.057		0.058	0.07	$\Omega$
	$V_{GS} = 2.5\text{ V}$			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	
<b>Dynamic</b>									
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		$\Omega$	
<b>Switching</b>									
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.