



Si3433BDV vs. Si3433DV

Description: P-Channel, 1.8 V (G-S) MOSFET

Package: TSOP-6

Pin Out: Identical

Part Number Replacements:

Si3433BDV-T1 Replaces Si3433DV-T1

Si3433BDV-T1-E3 (Lead (Pb)-free version) Replaces Si3433DV-T1

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted				
Parameter	Symbol	Si3433BDV	Si3433DV	Unit
Drain-Source Voltage	V_{DS}	- 20	- 20	V
Gate-Source Voltage	V_{GS}	± 8	± 8	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	- 5.6	A
	$T_A = 85\text{ }^\circ\text{C}$		- 4.1	
Pulsed Drain Current	I_{DM}	- 20	- 20	
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 1.7	- 1.7	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	2.0	W
	$T_A = 85\text{ }^\circ\text{C}$		1.0	
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}	110	110	$^\circ\text{C/W}$

SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted									
Parameter	Symbol	Si3433BDV			Si3433DV			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	- 20			- 20			V	
Gate-Threshold Voltage	$V_{G(th)}$	- 0.45		- 0.85	- 0.45				
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA	
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA	
On-State Drain Current	$V_{GS} = - 4.5\text{ V}$	$I_{D(on)}$	- 20		- 20			A	
Drain-Source On-Resistance	$V_{GS} = - 4.5\text{ V}$	$r_{DS(on)}$		0.034	0.042		0.025	0.042	Ω
	$V_{GS} = - 2.5\text{ V}$			0.045	0.057		0.048	0.057	
	$V_{GS} = - 1.8\text{ V}$			0.060	0.080		0.066	0.080	
Forward Transconductance		g_{fs}		10			16	S	
Diode Forward Voltage		V_{SD}		- 0.7	- 1.2		- 0.7	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		12	18		11.5	17	nC
Gate-Source Charge		Q_{gs}		1.7			3		
Gate-Drain Charge		Q_{gd}		3.5			1.7		
Switching									
Turn-On Time		$t_{d(on)}$		15	25		18	36	ns
		t_r		40	75		25	50	
Turn-Off Time		$t_{d(off)}$		80	130		80	160	
		t_f		60	100		45	90	
Source-Drain Reverse Recovery Time		t_{rr}		40	70		30	50	

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.