



Si3457BDV vs. Si3457DV

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

Package: TSOP-6

Pin Out: Identical

Part Number Replacements:

Si3457BDV-T1 Replaces Si3457DV-T1

Si3457BDV-T1-E3 (Lead (Pb)-free version) Replaces Si3457DV-T1

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted				
Parameter	Symbol	Si3457BDV	Si3457DV	Unit
Drain-Source Voltage	V_{DS}	- 30	- 30	V
Gate-Source Voltage	V_{GS}	± 20	± 20	
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	- 5.0	A
	$T_A = 70\text{ }^\circ\text{C}$		- 4.0	
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
	$T_A = 70\text{ }^\circ\text{C}$		1.3	
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}	62.5	62.5	$^\circ\text{C/W}$

SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted									
Parameter	Symbol	Si3457BDV			Si3457DV			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	- 30			- 30			V	
Gate-Threshold Voltage	$V_{G(th)}$	- 1.0		- 3.0	- 1.0				
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		- 15			A	
Drain-Source On-Resistance	$V_{GS} = - 10\text{ V}$	$r_{DS(on)}$		0.044	0.054		0.065	Ω	
	$V_{GS} = - 4.5\text{ V}$			0.082	0.100		0.100		
Forward Transconductance		g_{fs}		10		6		S	
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		- 1.2	V	
Dynamic									
Total Gate Charge		Q_g		12.5	19		11	20	nC
Gate-Source Charge		Q_{gs}		2.1			2.2		
Gate-Drain Charge		Q_{gd}		3.5			1.7		
Switching									
Turn-On Time		$t_{d(on)}$		7	15		7	15	ns
		t_r		10	15		11	20	
Turn-Off Time		$t_{d(off)}$		30	45		30	50	
		t_f		22	35		11	20	
Source-Drain Reverse Recovery Time		t_{rr}		25	60		50	80	

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.