



Si3456CDV vs. Si3456BDV

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

Package: TSOP-6

Pin Out: Identical

Part Number Replacements: Si3456CDV-T1-E3 replaces Si3456BDV-T1-E3

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted					
PARAMETER	SYMBOL	Si3456CDV	Si3456BDV	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	6.1	6.0	A
	$T_A = 70\text{ }^\circ\text{C}$		4.9	4.8	
Pulsed Drain Current	I_{DM}	20	30		
Continuous Source Current (MOSFET Diode Conduction)	$T_A = 25\text{ }^\circ\text{C}$	I_S	1.7	1.7	
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	2.0	2.0	W
	$T_A = 70\text{ }^\circ\text{C}$		1.3	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	Si3456CDV			Si3456BDV			UNIT	
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Static									
Gate-Threshold Voltage	$V_{GS(th)}$	1.2		3	1		3	V	
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA	
Zero Gate Voltage Drain Current	I_{DSS}			1			1	μA	
On-State Drain Current	$V_{GS} = 10\text{ V}^a$	$I_{D(on)}$	15		30			A	
Drain-Source On-Resistance	$V_{GS} = 10\text{ V}$	$R_{DS(on)}$		0.028	0.034		0.028	0.035	Ω
	$V_{GS} = 4.5\text{ V}$			0.043	0.052		0.041	0.052	
Forward Transconductance		g_{fs}		12			12	S	
Diode Forward Voltage		V_{SD}		0.8	1.2		0.8	1.2	V
Dynamic									
Total Gate Charge		Q_g		8	12		8.6	13	nC
Gate-Source Charge		Q_{gs}		1.8			1.8		
Gate-Drain Charge		Q_{gd}		1.2			1.5		
Gate Resistance		R_g	2.4	4.8	7.2	1.4	2.8	4.8	Ω

Note

a. $T_A = 85\text{ }^\circ\text{C}$

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.