



Si4834BDY vs. Si4834DY

Description: Dual N-Channel, 30 V (D-S) MOSFET with Schottky Diode

Package: SOIC-8

Pin Out: Identical

Part Number Replacements:

- Si4834BDY Replaces Si4834DY
- Si4834BDY-E3 (Lead (Pb)-free version) Replaces Si4834DY
- Si4834BDY-T1 Replaces Si4834DY-T1
- Si4834BDY-T1-E3 (Lead (Pb)-free version) Replaces Si4834DY-T1

ABSOLUTE MAXIMUM RATINGS $T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted				
Parameter	Symbol	Si4834BDY	Si4834DY	Unit
Drain-Source Voltage	V_{DS}	30	30	V
Gate-Source Voltage	V_{GS}	± 20	± 20	
Continuous Drain Current	I_D	$T_A = 25\text{ }^\circ\text{C}$	7.5	A
		$T_A = 70\text{ }^\circ\text{C}$	6	
Pulsed Drain Current	I_{DM}	30	30	
Continuous Source Current (MOSFET Diode Conduction)	I_S	1.7	1.7	
Power Dissipation	P_D	$T_A = 25\text{ }^\circ\text{C}$	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 (MOSFET)	R_{thJA}	62.5	62.5	$^\circ\text{C/W}$
Maximum Junction-to-Ambient (Schottky)		62.5	62.5	

SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted									
Parameter	Symbol	Si4834BDY			Si4834DY			Unit	
		Min	Typ	Max	Min	Typ	Max		
Static									
Gate-Threshold Voltage	$V_{GS(th)}$	0.8		3.0	0.8			V	
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA	
Zero Gate Voltage Drain Current	Ch-1	$T_J = 25\text{ }^\circ\text{C}$	I_{DSS}			100		100	μA
						1		1	
	Ch-1	$T_J = 85\text{ }^\circ\text{C}$				2000		2000	
				Ch-2			15		
On-State Drain Current	$V_{GS} = 10\text{ V}$	$I_{D(on)}$	20			20		A	
Drain-Source On-Resistance	$V_{GS} = 10\text{ V}$	$r_{DS(on)}$		0.017	0.022		0.018	0.022	Ω
	$V_{GS} = 4.5\text{ V}$			0.024	0.030		0.024	0.030	
Forward Transconductance		g_{fs}		19			22	S	
Diode Forward Voltage	Ch-1	V_{SD}		0.47	0.5		0.47	0.5	V
	Ch-2			0.75	1.2		0.8	1.2	

Specification Comparison

Vishay Siliconix



SPECIFICATIONS $T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted								
Parameter	Symbol	Si4834BDY			Si4834DY			Unit
		Min	Typ	Max	Min	Typ	Max	
Dynamic								
Total Gate Charge	Q_g		7	11		13	20	nC
Gate-Source Charge	Q_{gs}		2.9			2		
Gate-Drain Charge	Q_{gd}		2.5			2.7		
Gate Resistance	R_g	0.5	1.5	2.6	0.5	1.9	3.2	Ω
Switching								
Turn-On Time	$t_{d(on)}$		9	15		8	16	ns
	t_r		10	17		10	20	
Turn-Off Time	$t_{d(off)}$		19	30		21	40	
	t_f		9	15		10	20	
Source-Drain Reverse Recovery Time	Ch-1	t_{rr}	32	55		32	70	
	Ch-2		35	55		40	80	

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.