Si4856ADY vs. Si4404DY

Description: **N-Channel, 30 V (D-S) MOSFET**
Package: **SO-8**
Pin Out: **Identical**

Part Number Replacements

Si4856ADY-T1-E3 Replaces Si4404DY-T1-E3
Si4856ADY-T1-E3 Replaces Si4404DY-T1

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**Si4856ADY**	**Si4404DY**	**Unit**
Drain-Source Voltage		V_{DS}	30	30	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	T_A = 25 °C	I_D	17	23	A
	T_A = 70 °C		14	19	
Pulsed Drain Current		I_{DM}	50	60	
Continuous Source Current (MOSFET Diode Conduction)	T_C = 25 °C	I_S	2.7	2.9	
Power Dissipation	T_A = 25 °C	P_D	3.0	3.5	W
	T_A = 70 °C		2.0	2.2	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	41	35	°C/W

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**Si4856ADY**			**Si4404DY**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1.5		2.5	1.0		3.0	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 V	$I_{D(on)}$	40			30			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.0043	0.0052		0.0045	0.0065	Ω
	V_{GS} = 4.5 V			0.0063	0.0076		0.0068	0.008	
Forward Transconductance		g_{fs}		57			80		S
Diode Forward Voltage		V_{SD}		0.72	1.1		0.8	1.2	V
Dynamic									
Total Charge		Q_g		21	32		36	55	nC
Gate-Source Charge		Q_{gs}		8.2			15		
Gate-Drain Charge		Q_{gd}		7.2			12		
Gate Resistance		R_g	0.7	1.5	2.3	1.5	2.2	3.7	Ω
Switching									
Turn-On Time		$t_{d(on)}$		18	27		20	30	ns
		t_r		15	23		15	23	
Turn-Off Time		$t_{d(off)}$		57	90		105	160	
		t_r		20	30		40	60	
Source-Drain Reverse Recovery Time		t_{rr}		40	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.