Si9407BDY vs. Si9407AEY

Description: **P-Channel, 60-V (G-S) MOSFET**
Package: **S0-8**
Pin Out: **Identical**

Part Number Replacements: Si9407BDY-T1-E3 replaces Si9407AEY-T1-E3
Si9407BDY-T1-E3 replaces Si9407AEY-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER		**SYMBOL**	**Si9407BDY**	**Si9407AEY**	**UNIT**
Drain-Source Voltage		V_{DS}	- 60	- 60	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	T_A = 25 °C	I_D	- 3.2	- 3.5	A
	T_A = 70 °C		- 2.6	- 3.0	
Pulsed Drain Current		I_{DM}	- 20	- 30	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 2	- 2.5	
Power Dissipation	T_A = 25 °C	P_D	2.4	3.0	W
	T_A = 70 °C		1.5	2.1	
Operating Junction and Storage Temperature Range		T_J and T_{stg}	- 55 to 150	- 55 to 175	°C
Maximum Junction-to-Ambient		R_{thJA}	53	50	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
PARAMETER		**SYMBOL**	**Si9407BDY**			**Si9407AEY**			**UNIT**
			MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 1		- 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} = - 4.5 V	$I_{D(on)}$	- 20			- 20			A
Drain-Source On-Resistance	V_{GS} = - 10 V	$R_{DS(on)}$		0.100	0.120		NS	0.120	Ω
	V_{GS} = - 4.5 V			0.126	0.150		NS	0.150	
Forward Transconductance		g_{fs}		8.5			8		S
Diode Forward Voltage		V_{SD}		- 0.8	- 1.2		NS	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		14.5	22		18	30	nC
Gate-Source Charge		Q_{gs}		2.2			5		
Gate-Drain Charge		Q_{gd}		3.7			2		
Gate Resistance		R_g		14			NS		Ω

Note
NS denotes not specified in original datasheet

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.