Si4532CDY vs. Si4532ADY

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

Part Number Replacements: Si4532CDY-T1-GE3 replaces Si4532ADY-T1-E3
Si4532CDY-T1-GE3 replaces Si4532ADY-T1-GE3

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
PARAMETER	**SYMBOL**		**Si4532CDY**	**Si4532ADY**	**UNIT**
Drain-Source Voltage	V_{DS}	N-Ch	30	30	V
		P-Ch	- 30	- 30	
Gate-Source Voltage	V_{GS}	N-Ch	± 20	± 20	
		P-Ch	± 20	± 20	
Continuous Drain Current (T_A = 25 °C)	I_D	N-Ch	4.9	4.9	A
		P-Ch	- 3.4	- 3.9	
Continuous Drain Current (T_A = 70 °C)		N-Ch	3.9	3.9	
		P-Ch	- 2.7	- 3.1	
Pulsed Drain Current	I_{DM}	N-Ch	24	20	
		P-Ch	- 12	- 20	
Continuous Source Current (MOSFET Diode Conduction)	I_S	N-Ch	1.5	1.7	
		P-Ch	- 1.5	- 1.7	
Power Dissipation (T_A = 25 °C)	P_D		1.78	2	W
Power Dissipation (T_A = 70 °C)			1.14	1.3	
Operating Junction and Storage Temperature Range	T_J and T_{stg}		- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient	R_{thJA}		70	62.5	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted										
PARAMETER		**SYMBOL**		**Si4532CDY**			**Si4532ADY**			**UNIT**
				MIN.	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	
Static										
Gate-Threshold Voltage		$V_{GS(th)}$	N-Ch	1		3	1		NS	V
			P-Ch	- 1		- 3	- 1		NS	
Gate-Body Leakage		I_{GSS}	N-Ch			± 100			± 100	nA
			P-Ch			± 100			± 100	
Zero Gate Voltage Drain Current		I_{DSS}	N-Ch			1			1	µA
			P-Ch			- 1			- 1	
On-State Drain Current	V_{GS} = 10 V	$I_{D(on)}$	N-Ch	20			20			A
	V_{GS} = - 10 V		P-Ch	- 12			- 20			
Drain-Source On-Resistance	V_{GS} = 10 V	$R_{DS(on)}$	N-Ch		0.038	0.047		0.044	0.053	Ω
	V_{GS} = - 10 V		P-Ch		0.073	0.089		0.062	0.080	
	V_{GS} = 4.5 V		N-Ch		0.052	0.065		0.062	0.075	
	V_{GS} = - 4.5 V		P-Ch		0.113	0.140		0.105	0.135	
Forward Transconductance		g_{fs}	N-Ch		7			11		S
			P-Ch		7			5		
Diode Forward Voltage		V_{SD}	N-Ch		0.8	1.2		0.8	1.2	V
			P-Ch		- 0.8	- 1.2		- 0.82	- 1.2	

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
			Si4532CDY			Si4532ADY			
PARAMETER	**SYMBOL**		**MIN.**	**TYP.**	**MAX.**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Dynamic									
Total Gate Charge	Q_g	N-Ch		6	9		8	16	nC
		P-Ch		7.8	12		10	20	
Gate-Source Charge	Q_{gs}	N-Ch		1.3			1.4		
		P-Ch		1.3			2		
Gate-Drain Charge	Q_{gd}	N-Ch		0.9			1.2		
		P-Ch		1.8			1.9		
Gate Resistance	R_g	N-Ch	0.6	3.1	6.2		NS	NS	Ω
		P-Ch	2	10	20		NS	NS	

Note

NS denotes not specified in original specification

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.