SUD50N03-06AP vs. SUD50N03-07AP

Description: **N-Channel, 30 V (D-S) MOSFET**
Package: **TO-252**
Pin Out: **Identical**

Part Number Replacements

SUD50N03-06AP-E3 Replaces SUD50N03-07AP-E3
SUD50N03-06AP-E3 Replaces SUD50N03-07AP

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)					
Parameter		**Symbol**	**SUD50N03-06AP**	**SUD50N03-07AP**	**Unit**
Drain-Source Voltage		V_{DS}	30	30	V
Gate-Source Voltage		V_{GS}	± 20	± 20	
Continuous Drain Current	T_C = 25 °C	I_D	90	81	A
	T_C = 70 °C		75	NS	
	T_C = 100 °C		NS	57	
Pulsed Drain Current		I_{DM}	100	100	
Continuous Source Current (MOSFET Diode Conduction)		I_S	6.7	25	
Power Dissipation	T_A = 25 °C	P_D	10	8.3	W
	T_C = 25 °C		83	88	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 175	- 55 to 175	°C
Maximum Junction-to-Ambient		R_{thJA}	15	18	°C/W
Maximum Junction-to-Case		R_{thJC}	1.8	1.7	

SPECIFICATIONS (T_J = 25 °C, unless otherwise noted)									
Parameter		**Symbol**	**SUD50N03-06AP**			**SUD50N03-07AP**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	1.2		2.4	1	2		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	$I_{D(on)}$	50			50			A
Drain-Source On-Resistance	V_{GS} = 10 V	$r_{DS(on)}$		0.0046	0.0057			0.007	Ω
	V_{GS} = 4.5 V			0.0062	0.0078			0.010	
Forward Transconductance		g_{fs}		70		20			S
Diode Forward Voltage		V_{SD}		0.9	1.5		1.2	1.5	V
Dynamic									
Total Charge		Q_g		30	NS		28	45	nC
Gate-Source Charge		Q_{gs}		11			12		
Gate-Drain Charge		Q_{gd}		9			10		
Gate Resistance		R_g	NS	0.9	1.4	0.5		3.3	Ω
Switching									
Turn-On Time		$t_{d(on)}$		12	18		11	25	ns
		t_r		10	15		6	15	
Turn-Off Time		$t_{d(off)}$		30	45		50	100	
		t_f		8	12		11	20	
Source-Drain Reverse Recovery Time		t_{rr}		65	100		45	100	

NS denotes parameter not specified

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.