TP0101K vs. TP0101T

Description: **P-Channel, 20 V (D-S) MOSFET, Low Threshold**
Package: **SOT-23**
Pin Out: **Identical**

Part Number Replacements:
TP0101K-T1-E3 Replaces TP0101T-T1-E3
TP0101K-T1 Replaces TP0101T-T1

ABSOLUTE MAXIMUM RATINGS T_A = 25 °C, unless otherwise noted					
Parameter		**Symbol**	**TP0101K**	**TP0101T**	**Unit**
Drain-Source Voltage		V_{DS}	- 20	- 20	V
Gate-Source Voltage		V_{GS}	± 8	± 8	
Continuous Drain Current	T_A = 25 °C	I_D	- 0.58	- 0.6	A
	T_A = 70 °C		- 0.46	- 0.48	
Pulsed Drain Current		I_{DM}	- 2	- 3	
Continuous Source Current (MOSFET Diode Conduction)		I_S	- 0.3	- 0.6	
Power Dissipation	T_A = 25 °C	P_D	0.35	0.35	W
	T_A = 70 °C		0.22	0.22	
Operating Junction and Storage Temperature Range		T_j and T_{stg}	- 55 to 150	- 55 to 150	°C
Maximum Junction-to-Ambient		R_{thJA}	357	357	°C/W

SPECIFICATIONS T_J = 25 °C, unless otherwise noted									
Parameter		**Symbol**	**TP0101K**			**TP0101T**			**Unit**
			Min	**Typ**	**Max**	**Min**	**Typ**	**Max**	
Static									
Gate-Threshold Voltage		$V_{GS(th)}$	- 0.5	- 0.7	- 1.0	- 0.5	- 0.9	- 1.5	V
Gate-Body Leakage		I_{GSS}			± 5000			± 100	nA
Zero Gate Voltage Drain Current		I_{DSS}			- 1			- 1	µA
On-State Drain Current	V_{GS} = - 4.5 V	$I_{D(on)}$	- 1.2			- 2.5			A
	V_{GS} = - 2.5 V		- 0.5			- 0.5			
Drain-Source On-Resistance	V_{GS} = - 4.5 V	$r_{DS(on)}$		0.42	0.65		0.45	0.65	Ω
	V_{GS} = - 2.5 V			0.64	0.85		0.69	0.85	
Forward Transconductance		g_{fs}		1300			1300		S
Diode Forward Voltage		V_{SD}		- 0.9	- 1.2		- 0.9	- 1.2	V
Dynamic									
Total Gate Charge		Q_g		1400	2200		2020	3000	nC
Gate-Source Charge		Q_{gs}		300			180		
Gate-Drain Charge		Q_{gd}		250			720		
Gate Resistance		R_g		150			NS		Ω
Switching[a]									
Turn-On Time		$t_{d(on)}$		25	35		7	12	ns
		t_r		30	45		25	35	
Turn-Off Time		$t_{d(off)}$		55	85		19	30	
		t_f		38	60		9	15	

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.