

5 é / Descriptions

TOLL-8L / x N ?ú 3 « | • ' ož

N-Channel MOSFET in a TOLL-8L Plastic Package .

□ ª / Features

 $V_{DS}(V)=100V$ $I_D=330A$ $R_{DS(ON)}@10V$ "1.5m Ÿ(Typ.1.2m Ÿ)

—)í D } ÄHF Product.

Đ ÷ / Applications

DC/DC ô E ~o• › •¼o• Ñ Ü ož

DC/DC converter,Power switch,Motor drives.

Ã W] Ô · / Equivalent Circuit

• Ů - æ / Pinning

PIN1 ÖG PIN2 Ã3 Ã4 Ã5 Ã6 Ã7 Ã8 ÖS PIN9 ÖD

, M V / Marking

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See Marking Instructions.

Table 1: Absolute Maximum Ratings (T_a=25 °C ;)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	100	V
Drain Current - Continuous	I _D	330	A
Drain Current – Pulsed	I _{DM}	1320	A
Gate-Source Voltage	V _{GS}	±20	V
Power Dissipation	P _{tot}	431	W
Single Pulse Avalanche Energy (V _{DS} =75V, V _{GS} =10V, L=0.3mH)	E _{AS}	540	mJ
Junction and Storage Temperature Range	T _j , T _{stg}	-55 to 150	-
Thermal resistance, junction - ambient	R _{JA}	40	°C/W
Thermal resistance, junction - case	R _{JC}	0.29	°C/W

Table 2: Electrical Characteristics (T_a=25 °C ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	100			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	μA
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} = ±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.2	3.0	3.8	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =100A		1.2	1.5	mΩ
Diode Forward Voltage	V _{SD}	I _S =100A, V _{GS} =0V		0.85	1.1	V
Gate Resistance	R _g	f=1MHz		1		ns
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1.0MHz		15800		pF
Output Capacitance	C _{oss}			1930		
Reverse Transfer Capacitance	C _{rss}			75		
Total Gate Charge	Q _g	V _{GS} =10V, I _D =100A, V _{DS} =50V		260		nC
Gate Source Charge	Q _{gs}			75		
Gate Drain Charge	Q _{gd}			76		

@ f Parameter	... Z Symbol	y i Ú ^ Test Conditions	Â 4 › Min	Á ° › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V V _{DS} =50V R _G =6 j I _D =100A		81		ns
Turn-On Rise Time	t _r			178		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

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Ø □ =) ¢ / Package Dimensions

9_SHU	*OSKTYOUTY /T 3OR			9_SHU	*OSKTYOUTY /T 3OR			ROSKZKXY
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'				H				
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ŠWD t... • Ž Ć (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KL RU] 9URJKXOTM 6

^a Ć y

1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q > “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 -

ž • y 10 r1 sec.

Temp.:260±5

Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL