

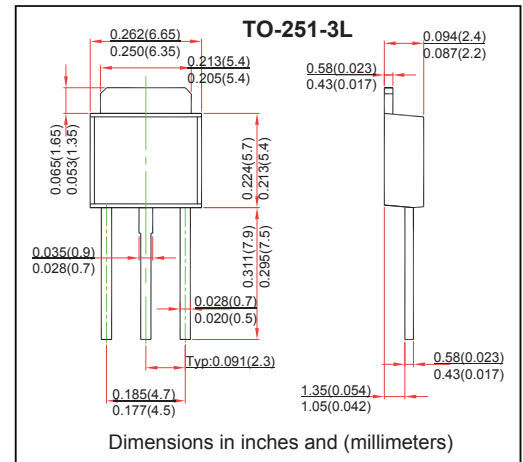
TO-251-3L Plastic-Encapsulate MOSFETS

FEATURE

- Robust High Voltage Termination
- Avalanche Energy Specified
- Source-to-Drain Diode Recovery Time Comparable to a Discrete
- Fast Recovery Diode Diode is Characterized for Use in Bridge Circuits
- IDSS and VDS(on) Specified at Elevated Temperature
- N-Channel Power MOSFET

MECHANICAL DATA

- Case style: TO-251-3L molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	600	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current	I _D	2	A
Pulsed Drain Current	I _{DM}	8	
Single Pulsed Avalanche Energy*	E _{AS}	128	mJ
Power Dissipation	PD	1.25	W
Thermal Resistance from Junction to Ambient	R _{θJA}	100	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-50 ~ +150	

*E_{AS} condition: T_J=25°C, V_{DD}=50V, L=64mH, I_{AS}=2A, R_G=25Ω, Starting T_J = 25°C

MOSFET ELECTRICAL CHARACTERISTICS T_A=25°C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	600			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 600V, V _{GS} = 0V			25	μA
		V _{DS} = 480V, V _{GS} = 0V, T _J = 125°C			100	
Gate-body leakage current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
On characteristics (note 1)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2.0		4.0	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 1A		3.6	4.4	Ω
Forward transconductance	g _{fs}	V _{DS} = 50V, I _D = 1A	1			S
Dynamic characteristics (note 2)						
Input capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		435		pF
Output capacitance	C _{oss}			56		
Reverse transfer capacitance	C _{rss}			9.2		
Switching characteristics (note 2)						
Total gate charge	Q _g	V _{DS} = 480V, V _{GS} = 10V, I _D = 2.4A		4.0	50	nC
Gate-source charge	Q _{gs}			4.2		
Gate-drain charge	Q _{gd}			8.4		
Turn-on delay time	t _{d(on)}	V _{DD} = 300V, I _D = 2A, V _{GS} = 10V, R _G = 18Ω		12		ns
Turn-on rise time	t _r			21		
Turn-off delay time	t _{d(off)}			30		
Turn-off fall time	t _f			24		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage (note 1)	V _{SD}	V _{GS} = 0V, I _S = 2A			1.6	V
Continuous drain-source diode forward current	I _S				2	A
Pulsed drain-source diode forward current	I _{SM}				8	A

Notes:

1. Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production.

RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

