

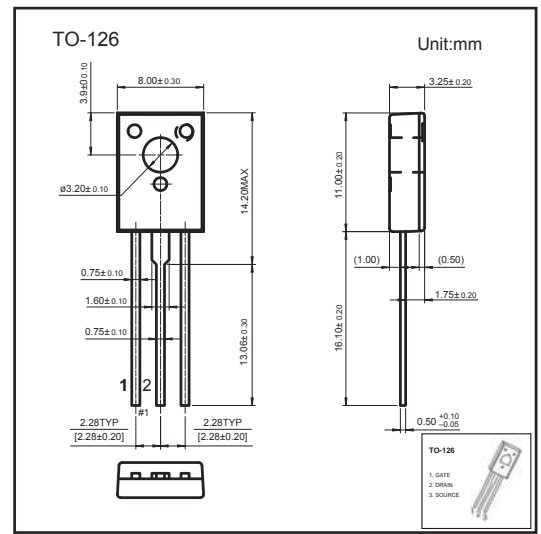
TO-126 Plastic-Encapsulate MOSFETS

FEATURES

- Robust High Voltage Termination
- Avalanche Energy Specified
- Diode is Characterized for Use in Bridge Circuits
- $V_{(BR)DSS} = 600V$
- $R_{DS(on)MAX} : 4.4\Omega @ 10V$
- ID:2A
- N-Channel Power MOSFET

MECHANICAL DATA

- Case style: TO-126 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	
Power Dissipation	P_D	1.25	W
Single Pulsed Avalanche Energy*	E_{AS}	128	mJ
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	100	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-50 ~ +150	
Maximum lead temperature for soldering purposes , 1/8" from case for 5 seconds	T_L	260	°C

*EAS condition: $T_J = 25^\circ C$, $V = DD 50V$, $L = 64mH$, $I_{AS} = 2A$, $R_G = 25\Omega$

MOSFET ELECTRICAL CHARACTERISTICS $T_a = 25^\circ C$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Off characteristics							
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	600			V	
Drain-source diode forward voltage(note2)	V_{SD}	$GSV = 0V, I_S = 2A$			1.6		
Zero gate voltage drain current	I_{DSS}	$DSV = 600V, V_{GS} = 0V$			25	μA	
Gate-body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA	
On characteristics (note2)							
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0		4.0	V	
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 1A$			4.4	Ω	
Forward Transconductance (note1)	g_{fs}	$V_{DS} = 50V, I_D = 1A$	1			S	
Dynamic characteristics (note 3)							
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 3)							
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 300V, V_{GS} = 10V,$ $R_G = 18\Omega, I_D = 2A$		12		ns	
Turn-on rise time	t_r				21		
Turn-off delay time	$t_{d(off)}$				30		
Turn-off fall time	t_f				24		

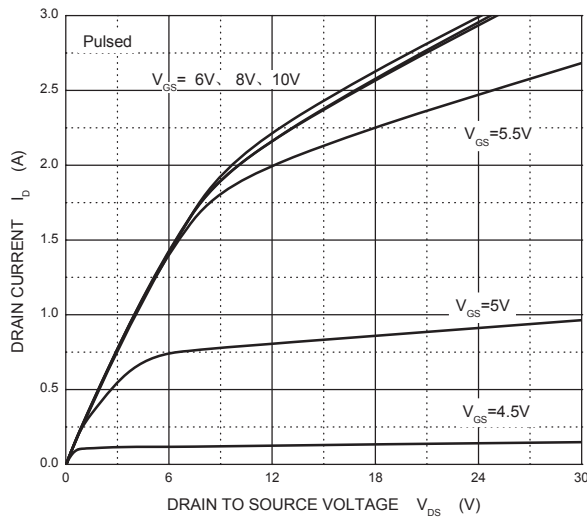
Notes :

1. $L = 16mH, I_L = 5A, V_{DD} = 50V, R_G = 25\Omega$, Starting $T_J = 25^\circ C$.
2. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. These parameters have no way to verify.

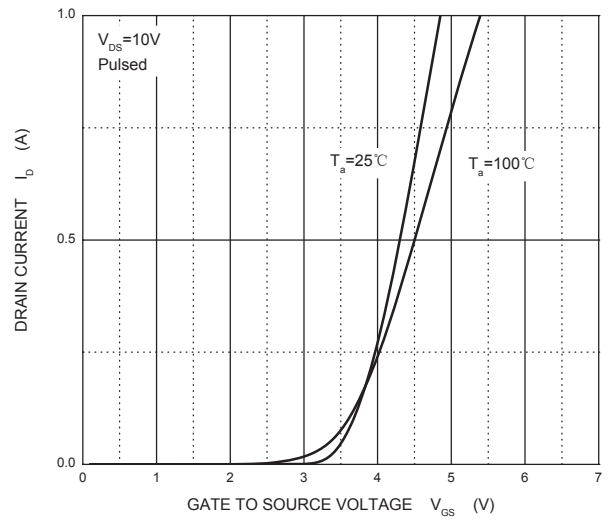
RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

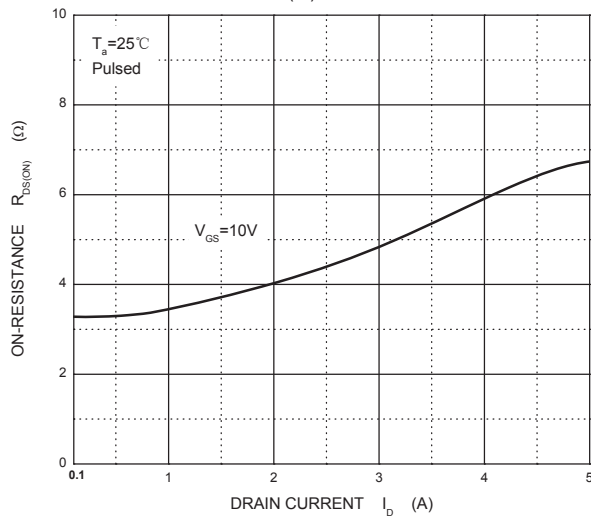
Output Characteristics



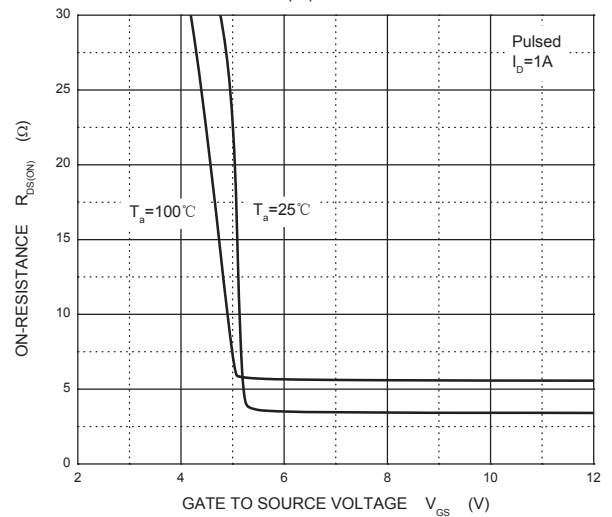
Transfer Characteristics



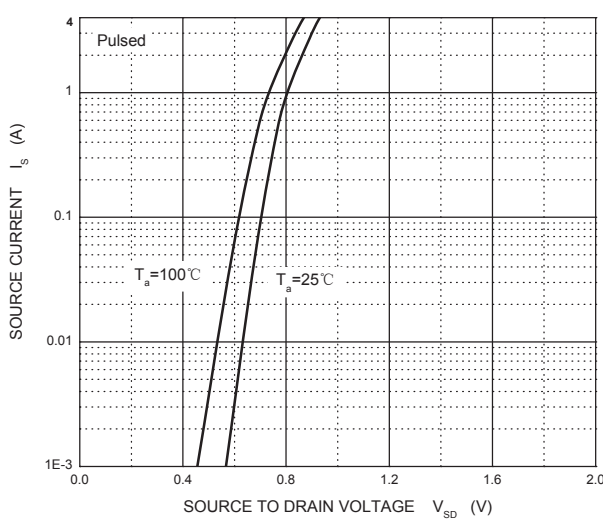
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

