Elektronische Bauelemente

SJV01N60

1A , 600V , $R_{DS(ON)}$ 10 mΩ

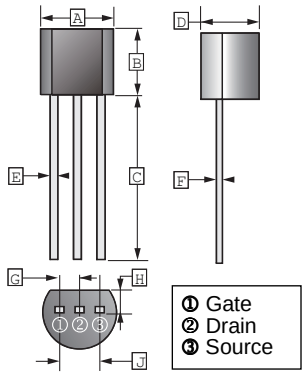
N-Channel Enhancement Mode Power MOSFET

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The high voltage MOSFET uses an advanced termination scheme to provide enhanced voltage-blocking capability without degrading performance over time. In addition, this advanced MOSFET is designed to withstand high energy in avalanche and commutation modes . The new energy efficient design also offers a drain-to-source diode with a fast recovery time. Designed for high voltage, high speed switching applications in power suppliers, converters and PWM motor controls ,these devices are particularly well suited for bridge circuits where diode speed and commutating safe operating areas are critical and offer additional and safety margin against unexpected voltage transients.

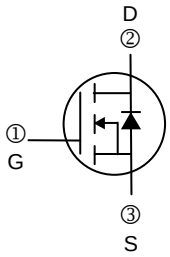
TO-92



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.40	4.70	F	0.30	0.51
B	4.30	4.70	G	1.27 TYP.	
C	12.70	-	H	1.10	1.40
D	3.30	3.81	J	2.42	2.66
E	0.36	0.56	K	0.36	0.76

FEATURES

- 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
- I_{DSS} and $V_{DS(on)}$ Specified at Elevated Temperature



ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	±30	V
Continuous Drain Current	I_D	1	A
Pulsed Drain Current	I_{DM}	9	A
Power Dissipation	P_D	0.625	W
Single Pulsed Avalanche Energy[1]	E_{AS}	20	mJ
Thermal Resistance Junction-Ambient(Max).	$R_{\theta JA}$	200	℃ / W
Operating Junction & Storage Temperature	T_J, T_{STG}	150, -50~150	℃

Notes:
1. E_{AS} condition: T_j=25℃, V_{DD}=100V, V_{GS}=10V, L=10mH, I_{AS}=2A, R_G=25Ω.

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	600	-	-	V	V_{GS}=0, I_D=250μA
Gate Threshold Voltage[1]	$V_{GS(th)}$	2	-	4	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Source Leakage Current[1]	I_{GSS}	-	-	±100	nA	V_{DS}=0, V_{GS}= ±20V
Drain-Source Leakage Current	I_{DSS}	-	-	0.1	μA	V_{DS}=600V, V_{GS}=0
Static Drain-Source On-Resistance[1]	$R_{DS(ON)}$	-	-	10	Ω	V_{GS}=10V, I_D=0.6A
Forward Transconductance[1]	g_{FS}	0.5	-	-	S	V_{DS}=50V, I_D=0.5A
Turn-on Delay Time	$T_{d(on)}$	-	8	-	nS	V_{DD}=300V I_D=1A V_{GS}=10V R_G=18Ω
Rise Time	T_r	-	21	-		
Turn-off Delay Time	$T_{d(off)}$	-	18	-		
Fall Time	T_f	-	24	-		
Input Capacitance	C_{iss}	-	210	-	pF	V_{GS}=0 V_{DS}=25V f=1.0 MHz
Output Capacitance	C_{oss}	-	28	-		
Reverse Transfer Capacitance	C_{rss}	-	4.2	-		
Forward On Voltage[1]	V_{SD}	-	-	1.5	V	I_S=1A, V_{GS}=0

Notes:
1. Pulse Test : Pulse width≦300μs, duty cycle≦2%.