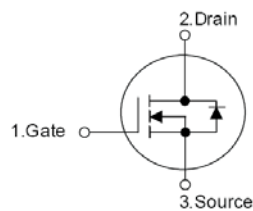


N-Channel MOSFET

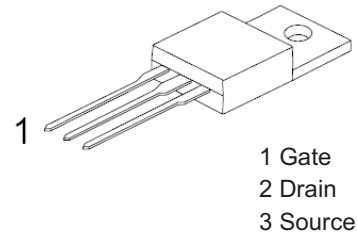
2N60

■ Features

- $R_{DS(ON)} = 3.8 \Omega @ V_{GS} = 10V$.
- Low gate charge (typical 9.0 nC).
- Low C_{rss} (typical 5.0 pF).
- Fast switching capability.
- Avalanche energy specified
- Improved dv/dt capability.



TO-220



- 1 Gate
2 Drain
3 Source

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current - Continuous ($T_c = 25^\circ\text{C}$) Continuous ($T_c = 100^\circ\text{C}$)	I_D	2.0 1.26	A
Drain Current - Pulsed * 1	I_{DP}	8.0	A
Single Pulsed Avalanche Energy * 2	E_{AS}	140	mJ
Avalanche Current * 1	I_{AR}	2.0	A
Repetitive Avalanche Energy * 1	E_{AR}	4.5	mJ
Peak Diode Recovery dv/dt * 3	dv/dt	4.5	V/ns
Power Dissipation ($T_c = 25^\circ\text{C}$) Derate above 25°C	P_D	44 0.36	W W/ $^\circ\text{C}$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$
Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	T_L	300	$^\circ\text{C}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	4	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	54	$^\circ\text{C/W}$

* 1. Repetitive Rating : Pulse width limited by maximum junction temperature.

* 2. $L = 64\text{mH}$, $I_{AS} = 2.0\text{A}$, $V_{DD} = 50\text{V}$, $R_G = 25 \Omega$, Starting $T_J = 25^\circ\text{C}$

* 3. $I_{SD} \leq 2.4\text{A}$, $di/dt \leq 200\text{A}/\mu\text{s}$, $V_{DD} \leq BV_{DS}$, Starting $T_J = 25^\circ\text{C}$

2N60

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 250 μ A	600			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 600 V, V _{GS} = 0 V			10	μ A
		V _{DS} = 480 V, T _C = 125°C			100	μ A
Gate-Body Leakage Current, Forward	I _{GSSF}	V _{GS} = 30 V, V _{DS} = 0 V			100	nA
Gate-Body Leakage Current, Reverse	I _{GSSR}	V _{GS} = -30 V, V _{DS} = 0 V			-100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μ A	2.0		4.0	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10 V, I _D = 1 A		3.8	5.0	Ω
Forward Transconductance	g _{FS}	V _{DS} = 50V, I _D = 1 A * 1		2.25		S
Input Capacitance	C _{iss}	V _{DS} = 25 V, V _{GS} = 0 V, f = 1.0 MHz		270	350	pF
Output Capacitance	C _{oss}			40	50	pF
Reverse Transfer Capacitance	C _{rss}			5	7	pF
Turn-On Delay Time	t _{d(on)}	V _{DD} = 300 V, I _D = 2.4 A, R _G = 25 Ω *1,2		10	30	ns
Turn-On Rise Time	t _r			25	60	ns
Turn-Off Delay Time	t _{d(off)}			20	50	ns
Turn-Off Fall Time	t _f			25	60	ns
Total Gate Charge	Q _g	V _{DS} = 480 V, I _D = 2.4A, V _{GS} = 10 V *1,2		9	11	nC
Gate-Source Charge	Q _{gs}			1.6		nC
Gate-Drain Charge	Q _{gd}			4.3		nC
Maximum Continuous Drain-Source Diode Forward Current	I _S				2	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}				8	A
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} = 0 V, I _S = 2.0 A			1.4	V
Reverse Recovery Time	t _{rr}	V _{GS} = 0 V, I _S = 2.4 A,		180		ns
Reverse Recovery Charge	Q _{rr}	dI _F / dt = 100 A/ μ s * 1		0.72		μ C

* 1. Pulse Test : Pulse width $\leq$ 300 μ s, Duty cycle $\leq$ 2%

* 2. Essentially independent of operating temperature.