

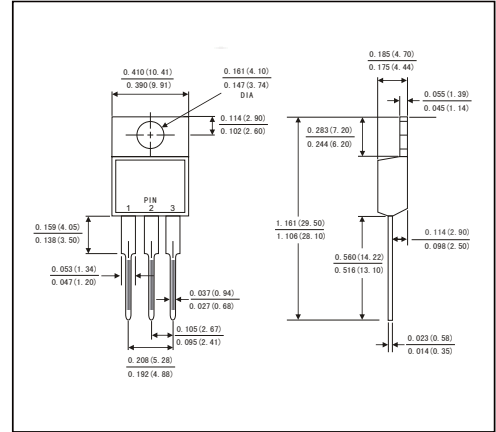
TO-220AB Plastic-Encapsulate MOSFETS

Features

- RDS(ON) = 3.8 @ VGS = 10V .
- Low gate charge (typical 9.0 nC).
- Low Crss (typical 5.0 pF).
- Fast switching capability.
- Avalanche energy specified Improved dv/dt capability.
- N-Channel MOSFET

MECHANICAL DATA

- Case style: TO-220AB molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	600	V
Gate-Source Voltage	V _{GSS}	± 30	V
Drain Current - Continuous (T _c = 25 °C) Continuous (T _c = 100 °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 °C) Derate above 25 °C	P _D	44 0.36	W W/ °C
Operating and Storage Temperature Range	T _J , T _{stg}	- 55 to + 150	°C
Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	T _L	300	°C
Thermal Resistance, Junction-to-Case	R _{θJC}	4	°C/W
Thermal Resistance, Junction-to-Ambient	R _{θJA}	54	°C/W

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

* 2. L = 64mH, I_{AS} = 2.0A, V_{DD} = 50V, R_G = 25 Ω, Starting T_J = 25 °C

* 3. I_{SD} ≤ 2.4A, di/dt ≤ 200A/μs, V_{DD} ≤ BV_{DSS}, Starting T_J = 25 °C

MOSFET ELECTRICAL CHARACTERISTICS T_A=25 °C unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 250 μA	600			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 600 V, V _{GS} = 0 V V _{DS} = 480 V, T _c = 125 °C			10 100	μA
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 μA	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} = 50 V, 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 = 2.4 A, 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, dI _F /dt = 100 A/μs * 1		180		ns
Reverse Recovery Charge	Q _{rr}			0.72		μC

* 1. Pulse Test : Pulse width ≤ 300 μs, Duty cycle ≤ 2%
* 2. Essentially independent of operating temperature.