

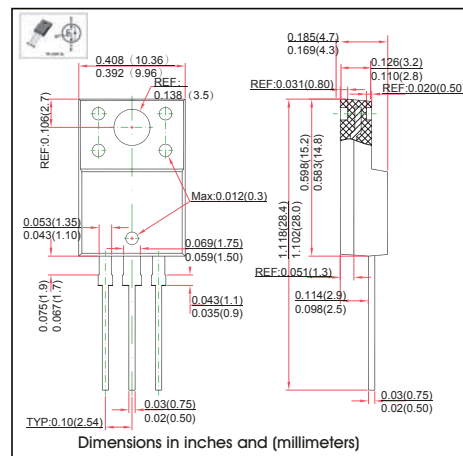
TO-220F Plastic-Encapsulate MOSFETS

FEATURE

- High Current Rating
- Lower RDS(on)
- Lower Capacitance
- Lower Total Gate Charge
- Tighter VSD Specifications
- Avalanche Energy Specified
- N-Channel Power MOSFET

MECHANICAL DATA

- Case style:TO-220F 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}	650	V
Gate-Source Voltage	V_{GS}	± 30	V
Continuous Drain Current	I_D	4.0	A
Pulsed Drain Current	I_{DM}	16	A
Single Pulsed Avalanche Energy (note1)	E_{AS}	280	mJ
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	°C
Maximum lead temperature for soldering purposes , 1/8" from case for 5 seconds	T_L	260	°C

MOSFET ELECTRICAL CHARACTERISTICS $T_A=25^\circ\text{C}$ 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	650			V
Drain-source diode forward voltage(note2)	V _{SD}	V _{GS} = 0V, I _s =4.0A			1.5	
Zero gate voltage drain current	I _{DSS}	V _{DS} =600V, V _{GS} =0V			25	μA
Gate-body leakage current (note2)	I _{GSS}	V _{DS} =0V, V _{GS} =± 30V			± 100	nA
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	3.5	4.0	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =2.0A		2.5	3.0	Ω
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f =1MHz			7 6 0	pF
Output capacitance	C _{oss}				1 8 0	
Reverse transfer capacitance	C _{rss}				20	
Switching characteristics (note 3)						
Total gate charge	Q _g	V _{DS} =480V,V _{GS} =10V,I _D =4.0A		5.0	10	nC
Gate-source charge	Q _{gs}			2.7		
Gate-drain charge	Q _{gd}			2.0		
Turn-on delay time (note3)	t _{d(on)}	V _{DD} =300V, V _{GS} =10V, R _G =9.1Ω, I _D =4.0A			20	ns
Turn-on rise time (note3)	t _r				10	
Turn-off delay time (note3)	t _{d(off)}				40	
Turn-off fall time (note3)	t _f				20	

Notes :

1. $L=30mH, I_L=4A, V_{DD}=100V, R_G=25\Omega$, Starting $T_J=25^\circ\text{C}$.
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

