



Micro Commercial Components



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MCPF08N60

N-Channel Enhancement Mode Field Effect Transistor

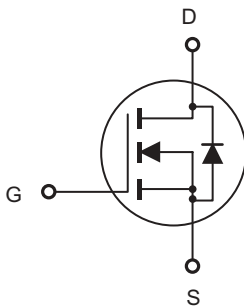
Features

- High Current Rating
- Lower Capacitance
- Halogen free available upon request by adding suffix "-HF"
- Lower $R_{DS(ON)}$
- Lower Total Gate Charge
- Tighter VSD Specifications
- Avalanche Energy Specified
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

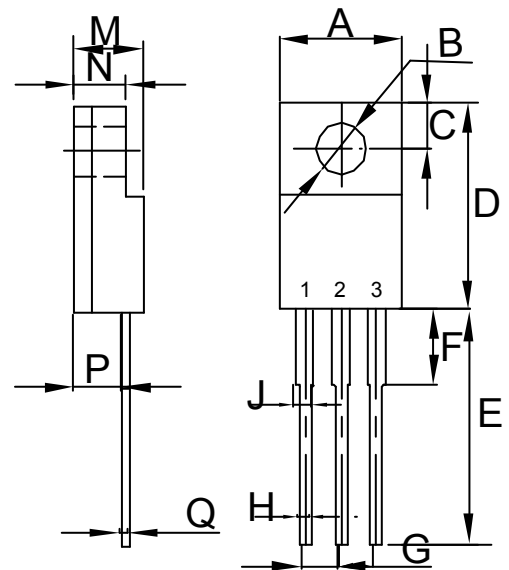
Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Rating	Unit
V_{DS}	Drain-source Voltage	600	V
I_D	Drain Current-Continuous	8.0	A
I_{DM}	Pulsed Drain Current	32	A
V_{GSS}	Gate-source Voltage	± 30	V
E_{AS}	Single Pulsed Avalanche Energy(note1)	580	mJ
P_D	Total Power Dissipation	2.0	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	62.5	$^{\circ}C/W$
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$
T_L	Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	260	$^{\circ}C$

Internal Block Diagram



TO-220F



- 1.GATE
- 2.DRAIN
- 3.SOURCE

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.392	.408	9.96	10.36	
B	.138		3.50		Φ
C	.106		2.70		
D	.583	.598	14.80	15.20	
E	.520		13.20		
F	.142	.158	3.60	4.00	
G	.100		2.54		
H	.020	.030	0.50	0.75	
J	.043	.053	1.10	1.35	
M	.169	.185	4.30	4.70	
N	.110	.126	2.80	3.20	
P	.098	.114	2.50	2.90	
Q	.020	.030	0.50	0.75	

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	600			V
Drain-source diode forward voltage(note2)	V _{SD}	V _{GS} = 0V, I _S =7.0A			1.4	
Zero gate voltage drain current	I _{DSS}	V _{DS} =600V, V _{GS} =0V			1.0	μA
Gate-body leakage current, forward(note2)	I _{GSSF}	V _{DS} =0V, V _{GS} =30V			100	nA
Gate-body leakage current, reverse(note2)	I _{GSSR}	V _{DS} =0V, V _{GS} =-30V			-100	
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0		4.0	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =4.0A			1.3	Ω

Dynamic characteristics (note 3)						
Input capacitance	C _{ISS}	V _{DS} =25V, V _{GS} =0V, f =1MHz			1280	pF
Output capacitance	C _{OSS}				120	
Reverse transfer capacitance	C _{RSS}				11	
Switching characteristics						
Turn-on delay time (note3)	t _{d(on)}	V _{DD} =300V, V _{GS} =10V, R _G =25Ω, I _D =7.0A			80	ns
Turn-on rise time (note3)	t _r				165	
Turn-off delay time (note3)	t _{d(off)}				160	
Turn-off fall time (note3)	t _f				120	

Notes :

- L=10mH, I_L=8 A, V_{DD}=50V, V_{GS}=10V, R_G=25Ω, Starting T_J=25°C.
- Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
- These parameters have no way to verify.



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Ordering Information :

Device	Packing
Part Number-BP	Bulk;4 Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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