

Features

- High Density Cell Desihn for Ultra Low $R_{DS(on)}$
- Fully Characterized Avalanche Voltage and Current
- Good Stability and Uniformity with High E_{AS}
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

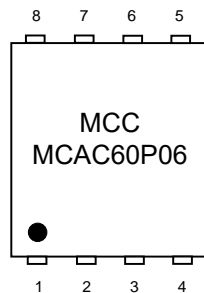
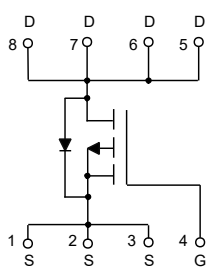
- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.15°C/W Junction to Case^(Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltlage	V_{GS}	±20	V
Continuous Drain Current	I_D	$T_C=25^\circ C$	-60
		$T_C=100^\circ C$	-42.3
Pulsed Drain Current	I_{DM}	-260	A
Single Pulse Avalanche Energy ^(Note 3)	E_{AS}	722	mJ
Total Power Dissipation	P_D	130	W

Note:

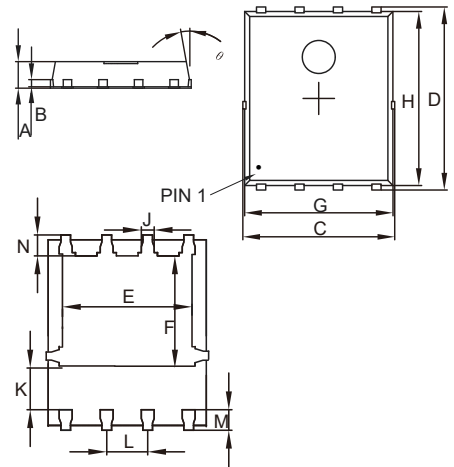
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. $T_J=25^\circ C, V_{DD}=-30V, V_G=-10V, L=0.5mH, R_g=25\Omega$.

Internal Structure and Marking Code



**P-CHANNEL
MOSFET**

DFN5060



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.031	0.047	0.80	1.20	
B	0.010		0.254		TYP.
C	0.193	0.222	4.90	5.64	
D	0.232	0.250	5.90	6.35	
E	0.148	0.167	3.75	4.25	
F	0.126	0.154	3.20	3.92	
G	0.189	0.213	4.80	5.40	
H	0.222	0.239	5.65	6.06	
K	0.045	0.059	1.15	1.50	
J	0.012	0.020	0.30	0.50	
L	0.046	0.054	1.17	1.37	
M	0.012	0.028	0.30	0.71	
N	0.016	0.028	0.40	0.71	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-60			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage ^(Note 4)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-2	-2.6	-3.5	V
Drain-Source On-Resistance ^(Note 4)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-20A$		13	18	m Ω
Forward Transconductance ^(Note 4)	g_{FS}	$V_{DS}=-5V, I_D=-20A$		25		S
Dynamic Characteristics^(Note 5)						
Input Capacitance	C_{iss}	$V_{DS}=-25V, V_{GS}=0V, f=1MHz$		5814		pF
Output Capacitance	C_{oss}			483		
Reverse Transfer Capacitance	C_{rss}			234		
Total Gate Charge	Q_g	$V_{DS}=-30V, V_{GS}=-10V, I_D=-20A$		75		nC
Gate-Source Charge	Q_{gs}			16		
Gate-Drain Charge	Q_{gd}			19		
Reverse Recovery Charge	Q_{rr}	$I_S=-20A, di/dt=-100A/\mu s$		71		
Reverse Recovery Time	t_{rr}			49		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-30V, R_L=1.5\Omega, V_{GS}=-10V, R_G=3\Omega$		18		ns
Turn-On Rise Time	t_r			20		
Turn-Off Delay Time	$t_{d(off)}$			55		
Turn-Off Fall Time	t_f			35		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S	$T_C=25^\circ C$			-60	A
Body Diode Voltage	V_{SD}	$I_{SD}=-20A, V_{GS}=0V$			-1.2	V

 Note 4. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

5. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Output Characteristics

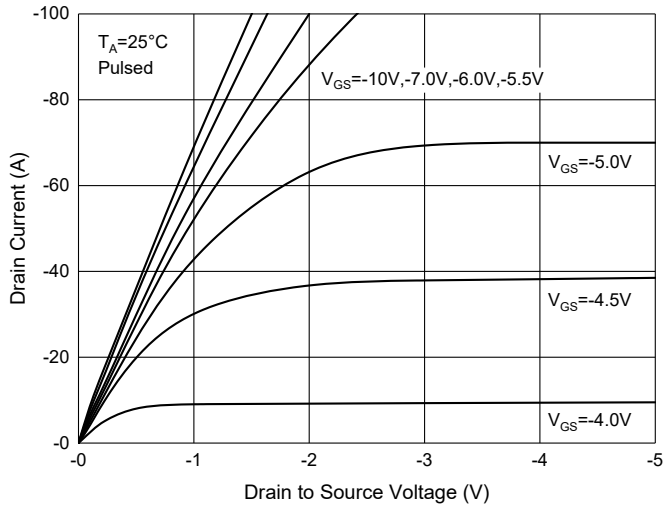


Fig. 2 - Transfer Characteristics

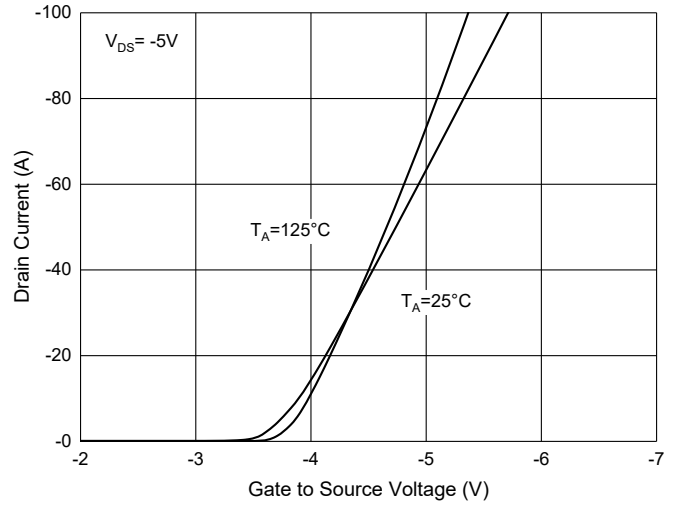


Fig. 3 - $R_{DS(ON)} - I_D$

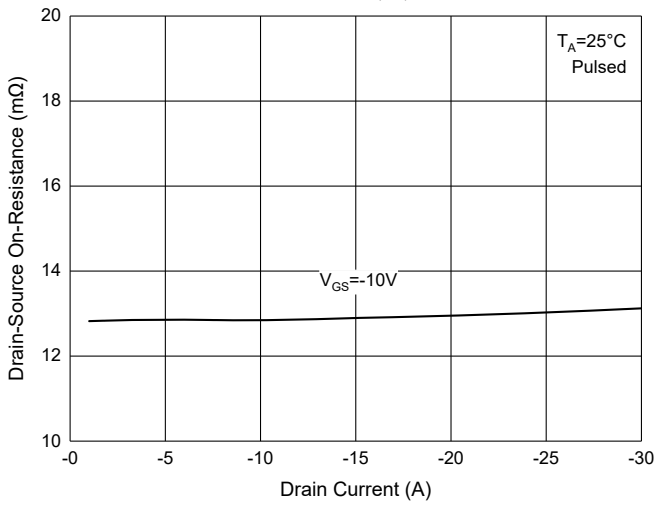


Fig. 4 - $R_{DS(ON)} - \text{Temperature}$

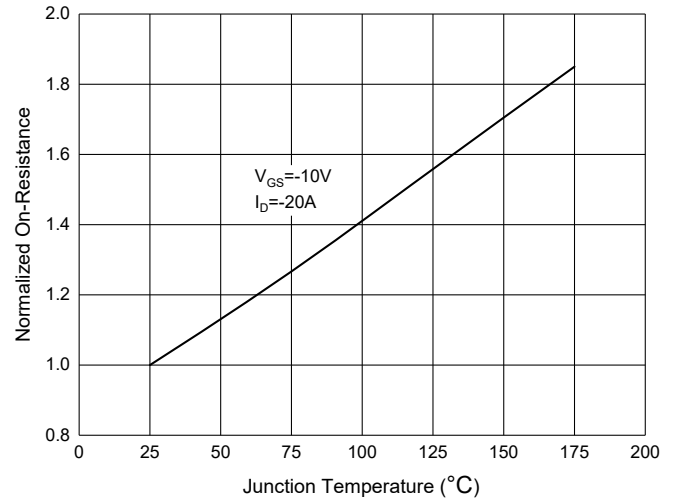
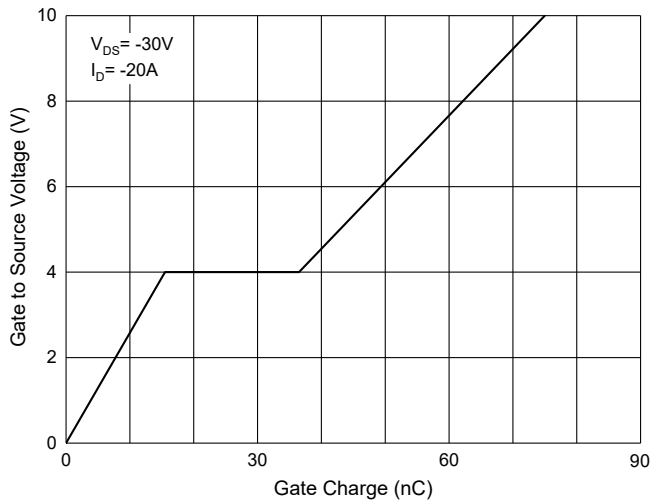


Fig. 5 - Gate Charge



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel

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