

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 Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

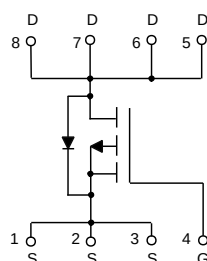
- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.15°C/W Junction to Case^(Note 2)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	-60	V
Gate-Source Voltlage		V _{GS}	±20	V
Continuous Drain Current	T _C =25°C	I _D	-60	A
	T _C =100°C		-42.3	A
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:

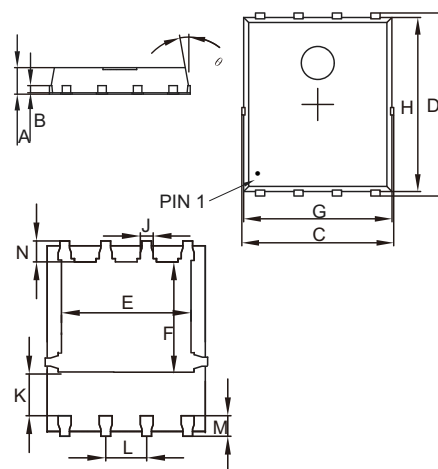
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. $T_J=25^\circ\text{C}$, $V_{DD}=-30\text{V}$, $V_G=-10\text{V}$, $L=0.5\text{mH}$, $R_g=25\Omega$.

Internal Structure



P-CHANNEL MOSFET

DFN5060



DIM	INCHES		MM		NOTE
	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 =-250μA	-60			V
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±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 =-250μA	-2	-2.6	-3.5	V
Drain-Source On-Resistance ^(Note 4)	R _{DS(on)}	V _{GS} =-10V, I _D =-20A		13	18	mΩ
Forward Tranconductance ^(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 Chrage	Q _{rr}	I _S =-20A, di/dt=-100A/μs		71		
Reverse Recovery Time	t _{rr}			49		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-30V, R _L =1.5Ω, V _{GS} =-10V,R _G =3Ω		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°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

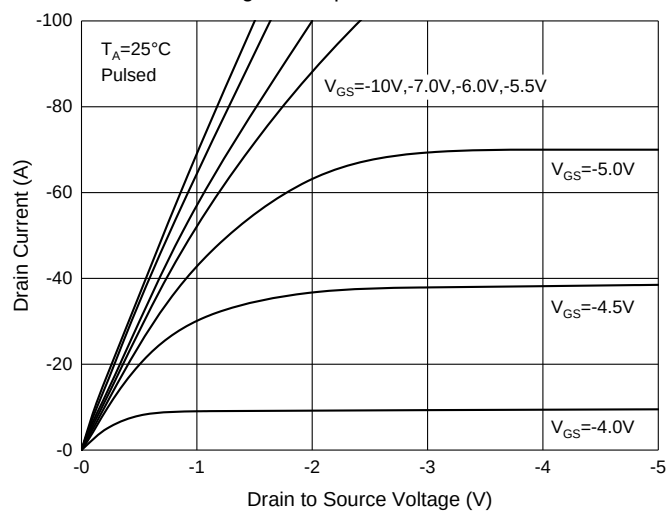


Fig. 2 - Transfer Characteristics

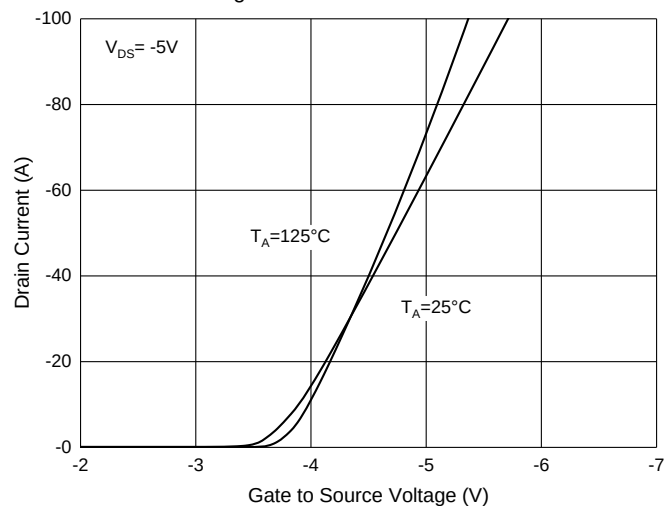


Fig. 3 - $R_{DS(ON)} - I_D$

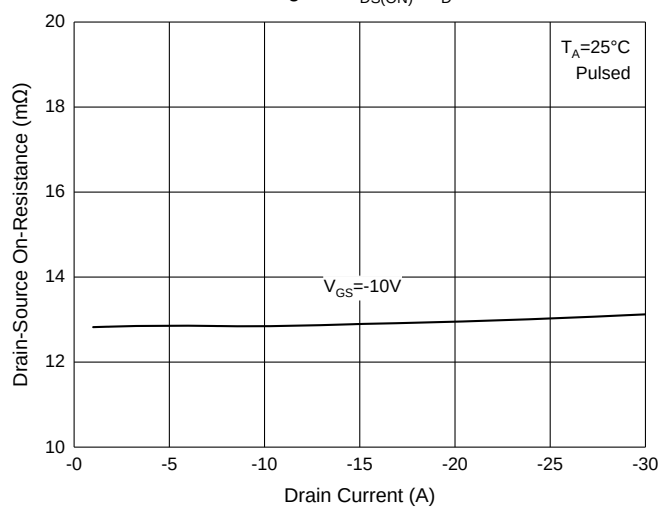


Fig. 4 - $R_{DS(ON)}$ - Temperature

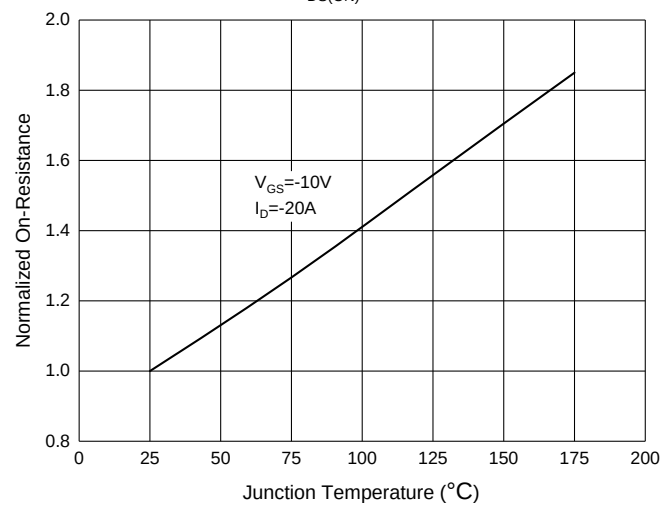
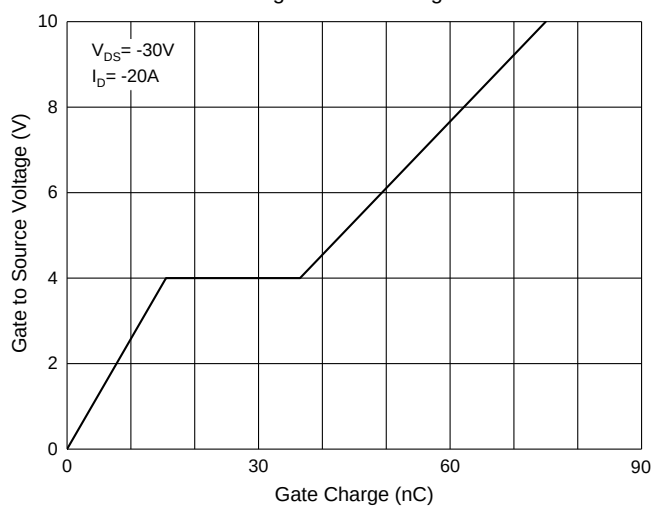


Fig. 5 - Gate Charge



Ordering Information

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

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