Features

- Load Switch for Portable Devices
- DC/DC Converter
- 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)

P-Channel MOSFET

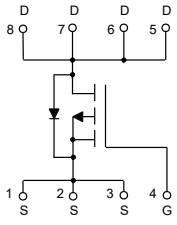
Maximum Ratings

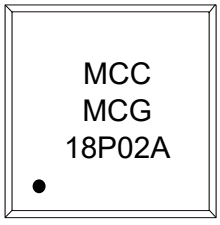
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 2.4°C/W Junction to Case

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-20	V
Gate -Source Voltage	V_{GS}	±8	V
Continuous Drain Current	I_D	-18	A
Continuous Source-Drain Diode Current	I_S	-18	A
Total Power Dissipation	P_D	52	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.

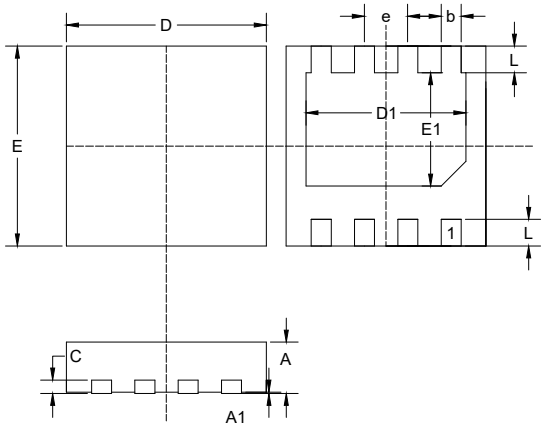
Internal Structure and Marking Code





Pin1

DFN3030-8



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.028	0.031	0.70	0.80	
A1	0.0008		0.02		TYP.
b	0.010	0.014	0.25	0.35	
c	0.007	0.012	0.18	0.30	
D	0.116	0.121	2.95	3.07	
E	0.116	0.121	2.95	3.07	
D1	0.091	0.098	2.30	2.50	
E1	0.063	0.071	1.60	1.80	
L	0.012	0.020	0.30	0.50	
e	0.026		0.65		TYP.

ELECTRICAL CHARACTERISTICS (Ta=25℃ 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	-20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.55		-0.9	V
Gate-Body Leakage Current	I_{GSS}	V_{GS} =±8V, V_{DS}=0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-20V, V_{GS}=0V			-1	μA
Drain-Source On-Resistance(Note 2)	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-4.2A		7.0	8.5	mΩ
		V_{GS}=-2.5V, I_D=-3.2A		8.0	11	
		V_{GS}=-1.8V, I_D=-2.2A		10	14	
Forward Tranconductance(Note 2)	g_{FS}	V_{DS}=-5V, I_D=-4.1A	6			S
Dynamic Characteristics(Note 3)						
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V, f=1MHz		1255		pF
Output Capacitance	C_{oss}			220		
Reverse Transfer Capacitance	C_{rss}			190		
Total Gate Charge	Q_g	V_{DS}=-10V,V_{GS}=-10V,I_D=-8A		29		nC
Gate-Source Chage	Q_{gs}			5.2		
Gage-Drain Charge	Q_{gd}			6.3		
Gate Resistance	R_g	f=1MHz		3.6		Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-4V,V_{GEN}=-4.5V,R_L=1.2Ω, I_D=-3.3A,R_G=1Ω		230		ns
Turn-On Rise Time	t_r			800		
Turn-Off Delay Time	$t_{d(off)}$			3000		
Turn-Off Fall Time	t_f			2000		
Drain-Source Body Diode Characteristics						
Continuous Source-Drain Diode Current	I_S	T_C=25°C			-18	A
Body Diode Voltage	V_{SD}	I_F=-8.2A		-0.8	-1.2	V

Note:

2. Pulse Test: Pulse Width≤300μs,Duty Cycle≤2%.
3.Guaranteed by Design,Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

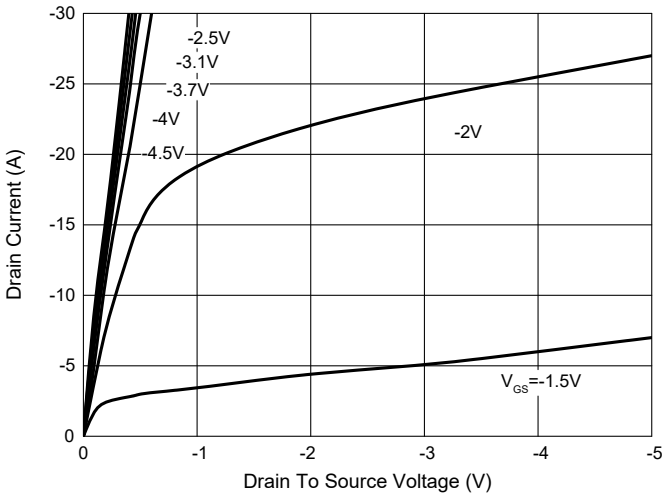


Fig. 2 - Normalized On Resistance Characteristics

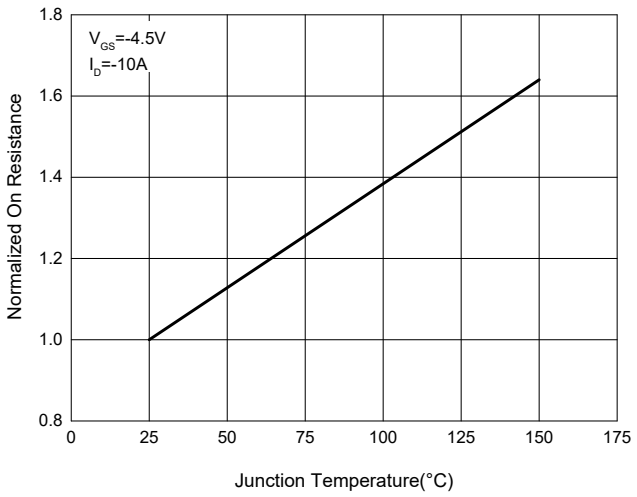


Fig. 3 - Transfer Characteristics

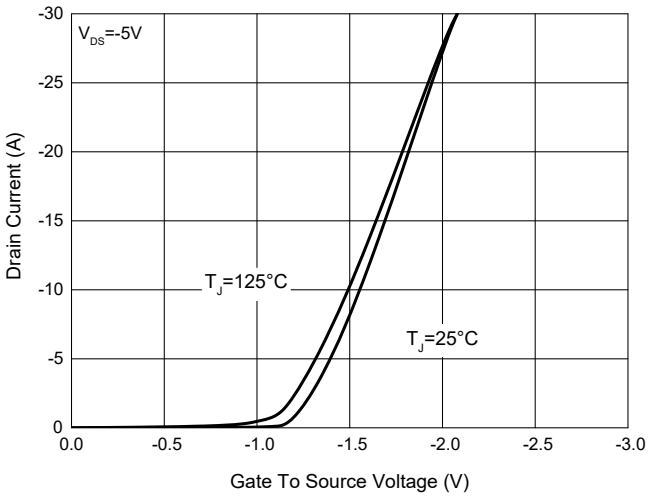


Fig. 4 - Total Gate Charge Characteristics

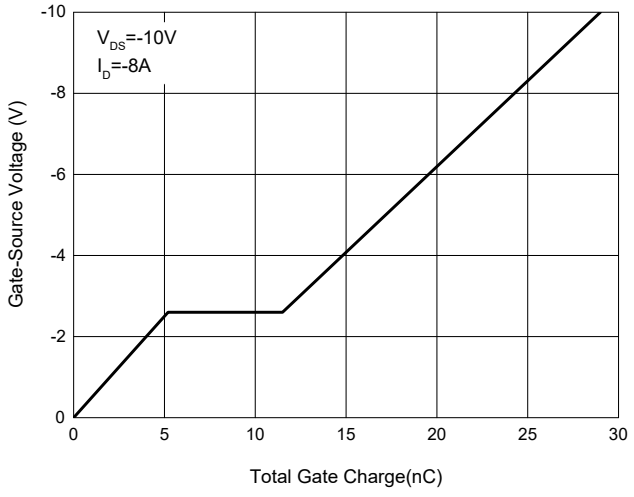


Fig. 5 - $R_{DS(ON)}$—I_D

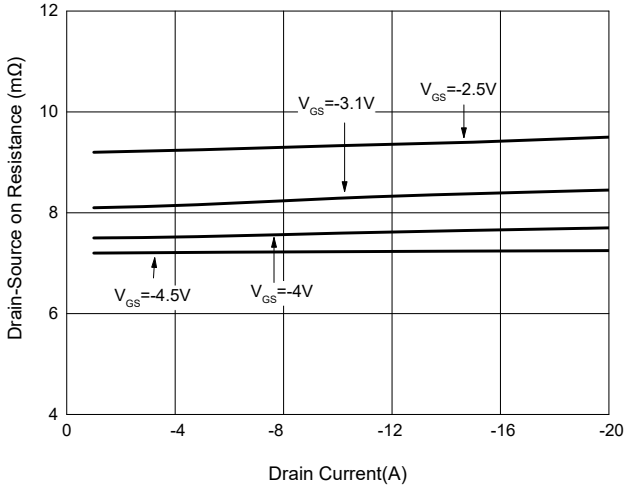
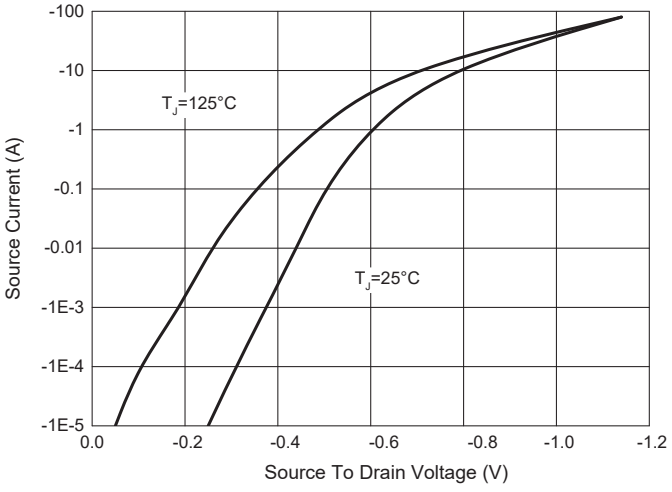


Fig. 6 - I_S—V_{SD}



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel