Features

- Ultra Low On-Resistance
- 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)

N-CHANNEL MOSFET

Maximum Ratings

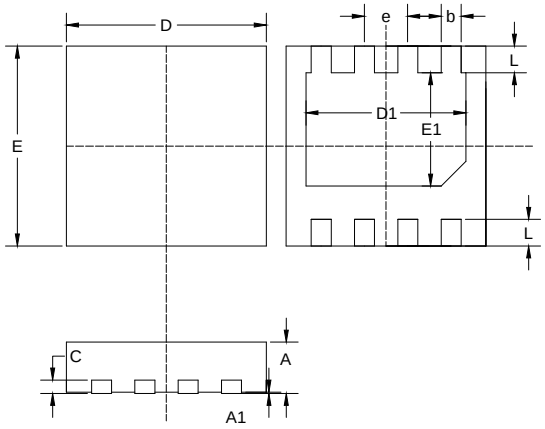
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 5°C/W Junction to Case

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Volltage	V_{GS}	±20	V
Continuous Drain Current	I_D	4	A
Pulsed Drain Current (Note 2)	I_{DM}	20	A
Single Pulse Avalanche Energy (Note 3)	E_{AS}	16	mJ
Total Power Dissipation	P_D	25	W

Note:

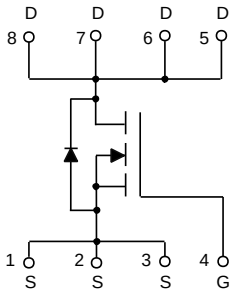
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Repetitive Rating,Pulse Width Limited by Maximum Junction Temperature.
3. EAS Condition:T_J=25°C,V_{DD}=50V,V_G=10V,Rg=25Ω.

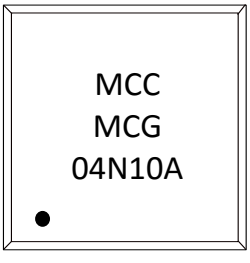
DFN3030-8



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.

Internal Structure and Marking Code





Pin1

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	100			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1	μA
Gate-Threshold Voltage(Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.5		2.6	V
Drain-Source On-Resistance(Note 4)	$R_{DS(on)}$	V_{GS}=10V, I_D=4.5A		85	95	mΩ
Forward Tranconductance	g_{FS}	V_{DS}=5V, I_D=4.5A	5			S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=50V,V_{GS}=0V,f=1MHz		612		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			91		
Total Gate Charge	Q_g	V_{DS}=50V,V_{GS}=10V,I_D=4.5A		11		nC
Gate-Source Charge	Q_{gs}			1.9		
Gate-Drain Charge	Q_{gd}			2.8		
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=50V,R_L=8.6Ω V_{GS}=10V,R_G=3Ω		8		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{d(off)}$			17		
Turn-Off Fall Time	t_f			4.5		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S				4	A
Body Diode Voltage	V_{SD}	I_{SD}=1A, V_{GS}=0V		0.74	1	V
Reverse Recovery Time	t_{rr}	T_J=25°C,I_F=4.5A,di/dt=500A/μs		21		ns
Reverse Recovery Charge	Q_{rr}			97		nC
Forward Turn-on Time	t_{on}	Intrinsic Turn-on Time is Negligible(Turn-on is Dominated by LS+LD)				

Note: 4. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤1.5%.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

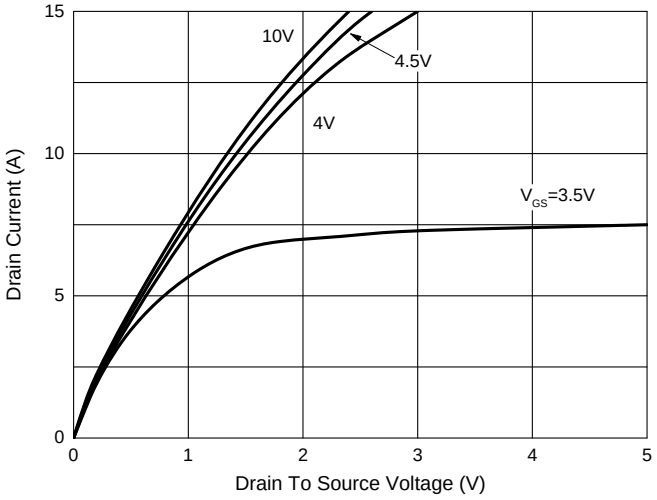


Fig. 2 - Transfer Characteristics

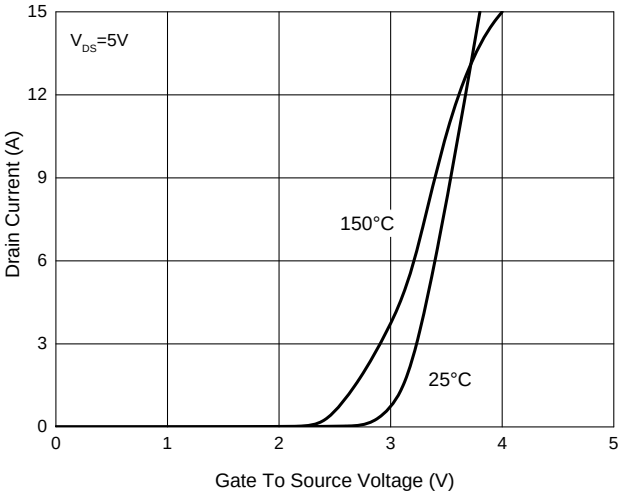


Fig. 3 - $R_{DS(ON)}$—I_D

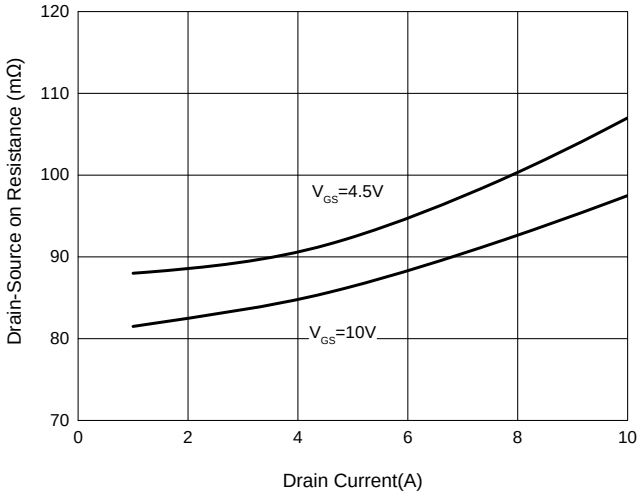


Fig. 4 - Normalized On Resistance Characteristics

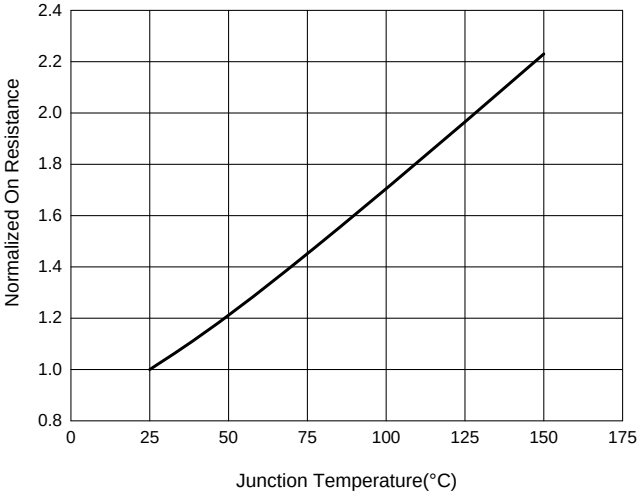


Fig. 5 - Total Gate Charge Characteristics

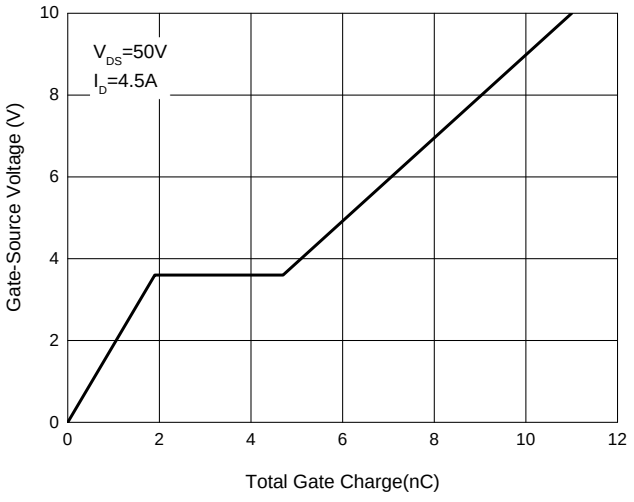
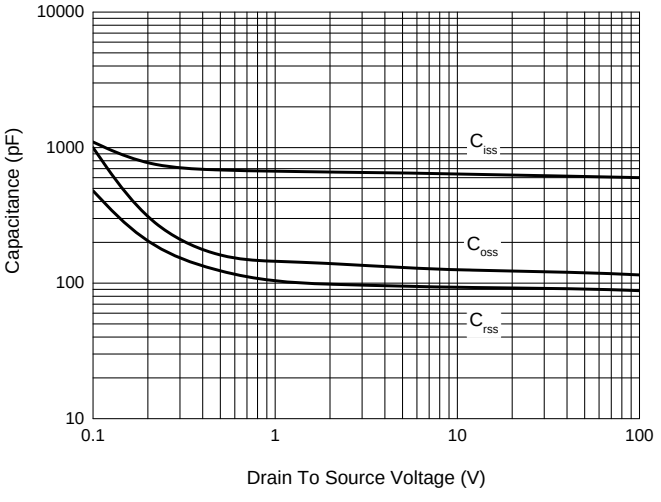


Fig. 6 - Capacitance Characteristics



Ordering Information

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