

Features

- Advanced Trench Cell Design
- Excellent Package for Heat Dissipation
- High Density Cell Design for Low $R_{DS(on)}$
- 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)

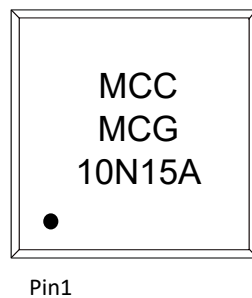
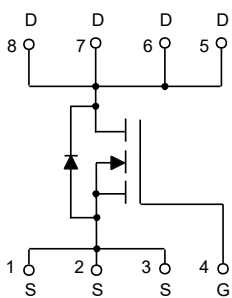
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 6°C/W Junction to Case ^(Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	±25	V
Continuous Drain Current	I_D	10	A
Pulsed Drain Current	I_{DM}	50	A
Total Power Dissipation	P_D	20.8	W

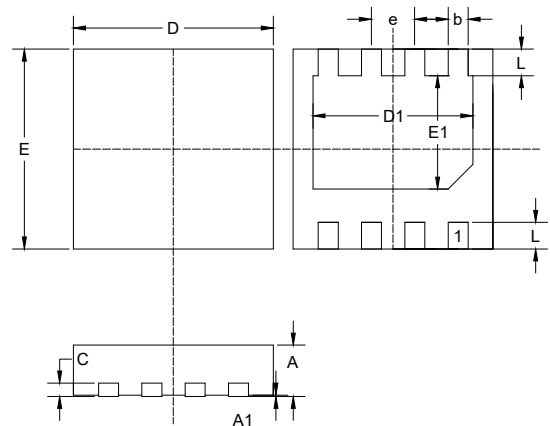
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface Mounted on 1 in² Pad Area, t ≤ 10 sec.

Internal Structure and Marking Code



**N-CHANNEL
MOSFET**

DFN3030-8



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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 @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	150			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 25V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=120V, V_{GS}=0V$			1	μA
		$V_{DS}=60V, V_{GS}=0V, T_J=85^\circ C$			30	
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2		4	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$		52	65	m Ω
		$V_{GS}=6V, I_D=5A$		58	75	
Diode Characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=10A$			1.3	V
Reverse Recovery Time	t_{rr}	$I_{DS}=4A, V_{GS}=0V$ $di_{SD}/dt=100A/\mu s$		64		ns
Reverse Recovery Charge	Q_{rr}			142		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=75V, V_{GS}=0V, f=1MHz$		1182		pF
Output Capacitance	C_{oss}			67		
Reverse Transfer Capacitance	C_{rss}			25		
Total Gate Charge	Q_g	$V_{DS}=75V, V_{GS}=10V, I_D=10A$		22		nC
Gate-Source Charge	Q_{gs}			6.2		
Gate-Drain Charge	Q_{gd}			5.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=75V, V_{GEN}=10V,$ $R_G=4.5\Omega, R_L=25\Omega,$ $I_{DS}=10A$		6.5		ns
Turn-On Rise Time	t_r			19		
Turn-Off Delay Time	$t_{d(off)}$			16		
Turn-Off Fall Time	t_f			18		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

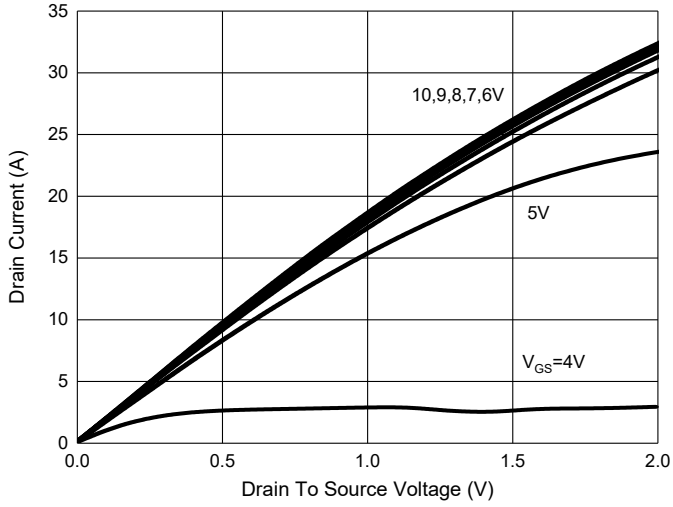


Fig. 2 - $I_S - V_{SD}$

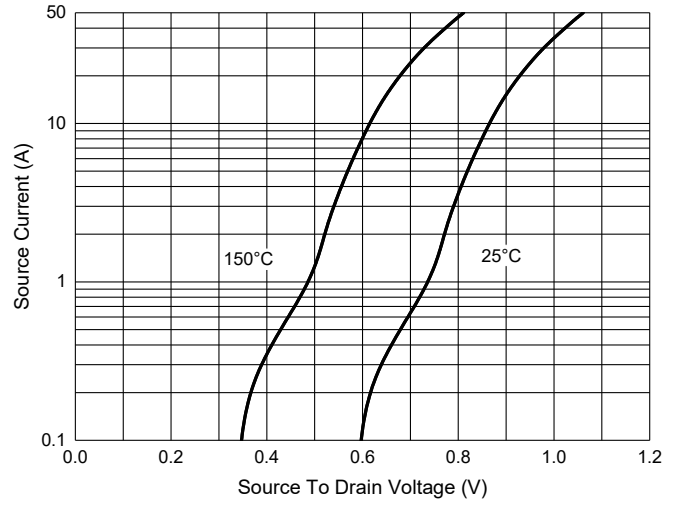


Fig. 3 - $R_{DS(ON)} - I_D$

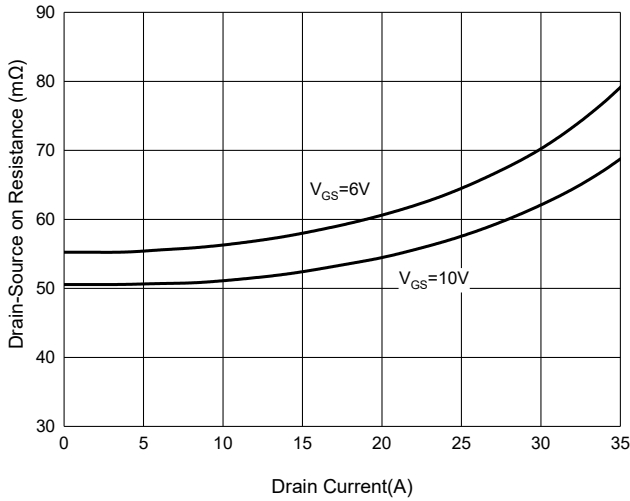


Fig. 4 - Normalized On Resistance Characteristics

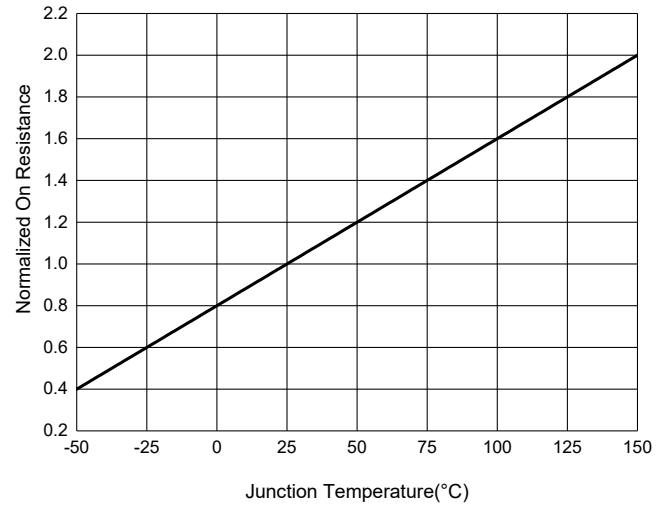


Fig. 5 - Capacitance Characteristics

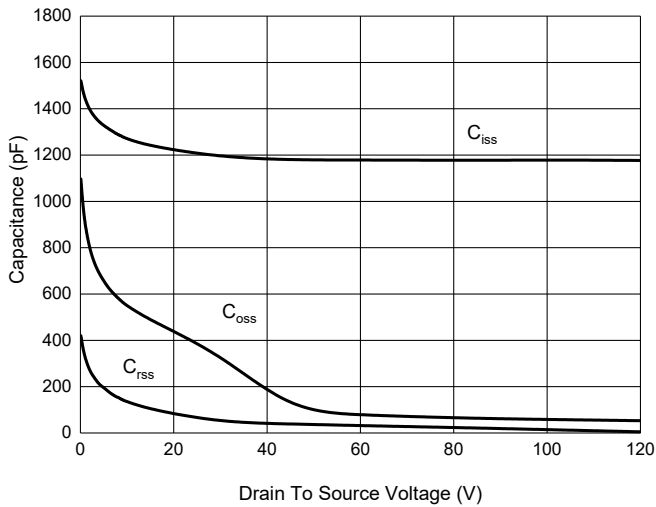
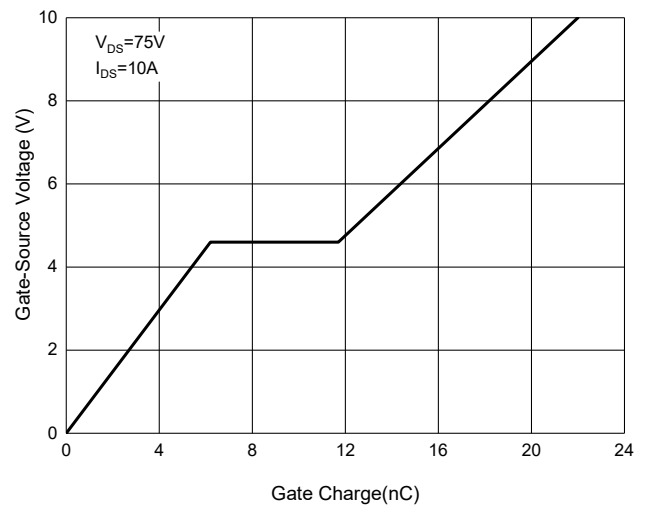
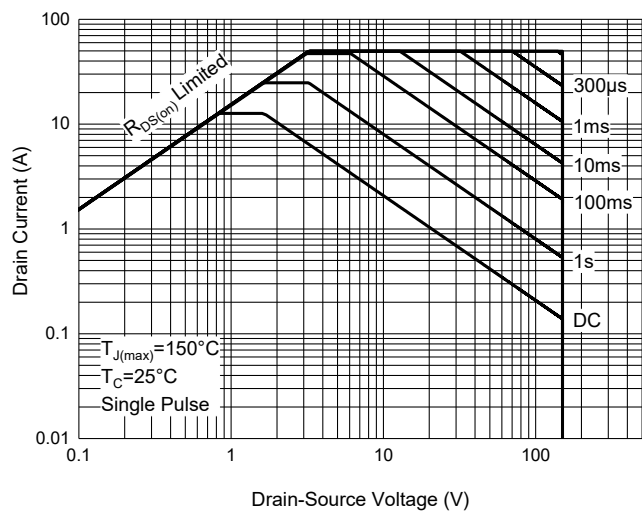


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Safe Operation Area



Ordering Information

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

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