Features

- AEC-Q101 Qualified
- Trench FET Power MOSFET
- Halogen Free (Note1)
- Moisture Sensitivity Level 3
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-Channel MOSFET

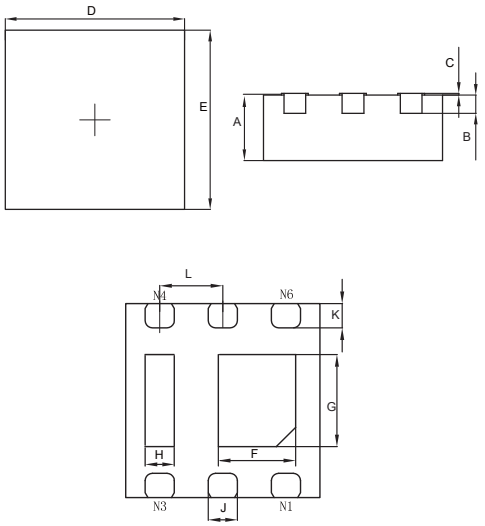
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 167°C/W Junction to Ambient (Note2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	12	V
Gate-Source Volltage	V_{GS}	±8	V
Continuous Drain Current	I_D	15	A
Pulsed Drain Current (Note3)	I_{DM}	60	A
Single Pulsed Avalanche Energy(L=0.5mH)	E_{AS}	25	mJ

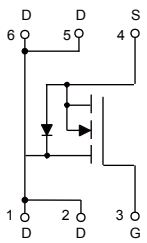
Notes:
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface Mounted On FR4 Board Using The Minimum Pad Size,1oz Copper.
3. Surface Mounted On FR4 Board Using 1 Square Inch Pad Size, 1oz Copper.

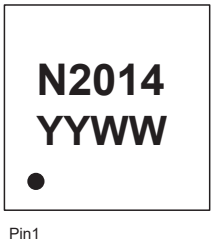
DFN2020-6LE



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.030	0.033	0.750	0.850	
B	0.008		0.200		REF.
C	0.000	0.002	0.000	0.050	
D	0.075	0.083	1.900	2.100	
E	0.075	0.083	1.900	2.100	
F	0.024	0.031	0.610	0.810	
G	0.028	0.036	0.710	0.910	
H	0.008	0.016	0.200	0.400	
J	0.010	0.014	0.250	0.350	
K	0.008	0.012	0.200	0.300	
L	0.026		0.650		TYP.

Internal Structure and Marking Code





YYWW: 4 codes in total
YY is the year
WW is the cycle

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	12			V
Gate-Threshold Voltage(Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.40	0.7	1.1	V
Gate-Body Leakage Current	I_{GSS}	V_{GS} =± 8V, V_{DS} =0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =12V, V_{GS} =0V			1	μA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=8V, I_D=5A		5	8	mΩ
		V_{GS}=4.5V, I_D=5A		7	9	
		V_{GS}=2.5V, I_D=5A		9	11	
Forward Transconductance(Note 4)	g_{FS}	V_{DS}=6V, I_D=5A		40		S
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=10A			1.2	V
Dynamic Characteristics(Note 5)						
Input Capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0V, f=1MHz		1791		pF
Output Capacitance	C_{oss}			229		
Reverse Transfer Capacitance	C_{rss}			197		
Gate Resistance	R_g	f=1MHz		11		Ω
Switching Characteristics(Note 5)						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=10V,V_{GEN}=8V, I_D=10A,R_G=4.5Ω,R_L=1Ω		6.5		ns
Turn-On Rise Time	t_r			42		
Turn-Off Delay Time	$t_{d(off)}$			56		
Turn-Off Fall Time	t_f			32		
Total Gate Charge	Q_g	V_{DS}=10V,Vgs=8V,I_D=10A		48		nC
Gate-Source Chage	Q_{gs}			5.2		
Gage-Drain Charge	Q_{gd}			4.6		

Notes:

4. Pulse Test: Pulse Width≤300μs,Duty Cycle≤2%.

5. These Parameters Have No Way To Verify.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

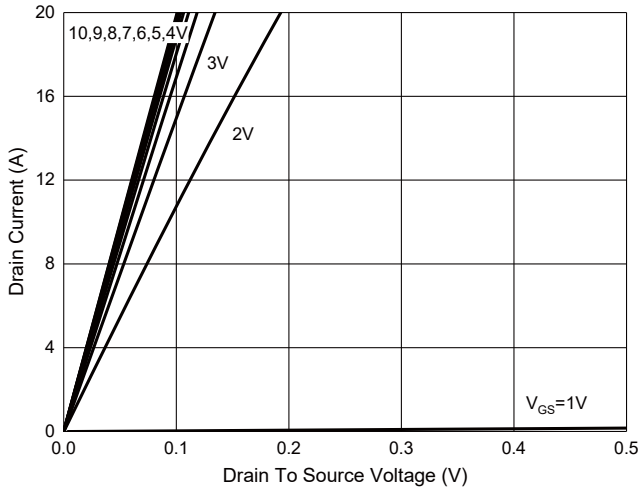


Fig. 2 - I_S—V_{SD}

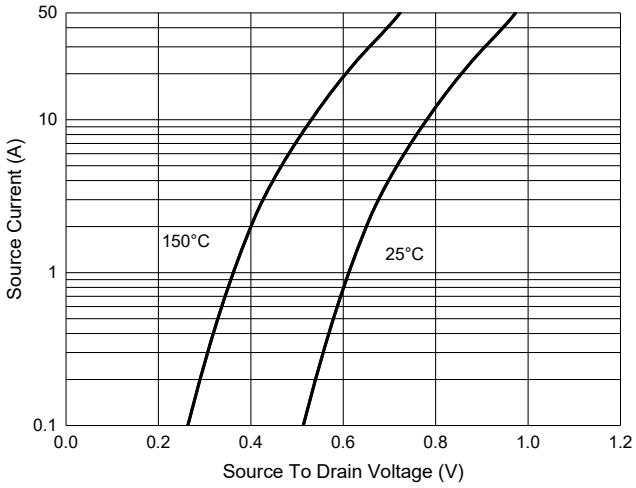


Fig. 3 - $R_{DS(ON)}$—I_D

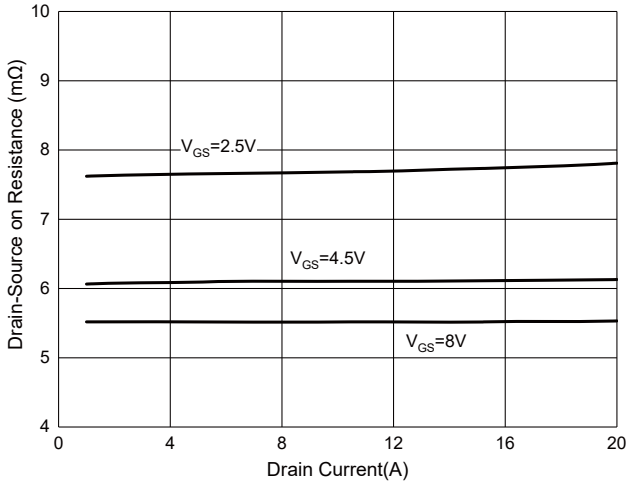


Fig. 4 - Normalized On Resistance Characteristics

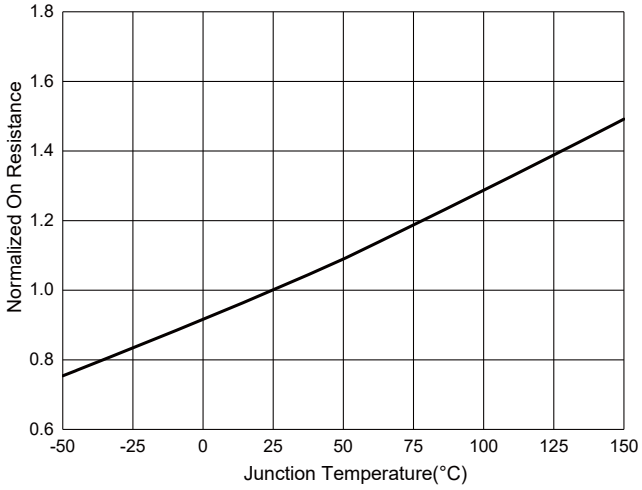


Fig. 5 - Capacitance Characteristics

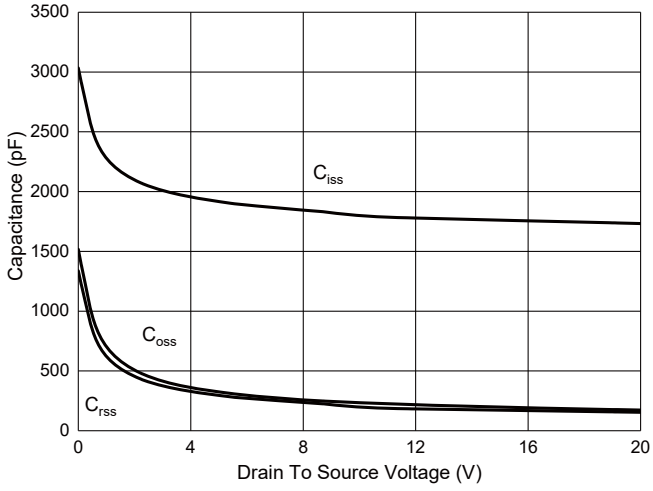
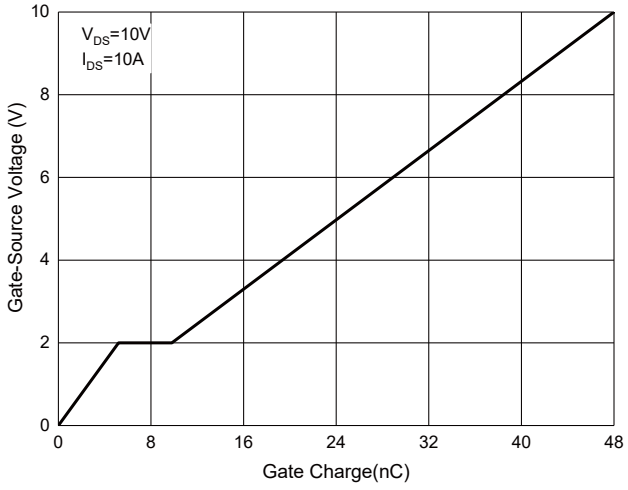
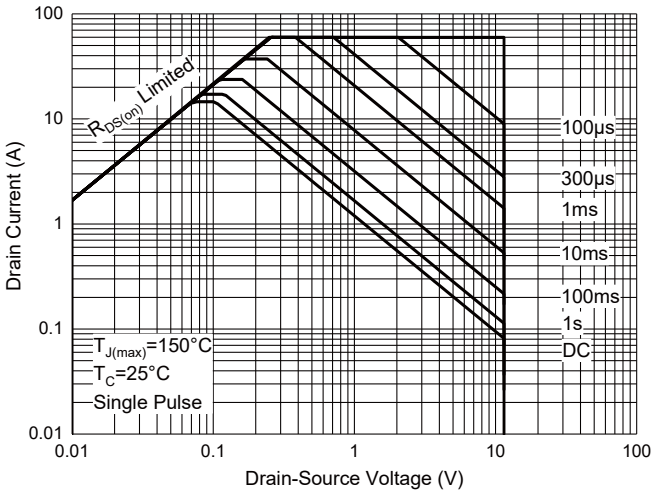


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Safe Operation Area



Ordering Information

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

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