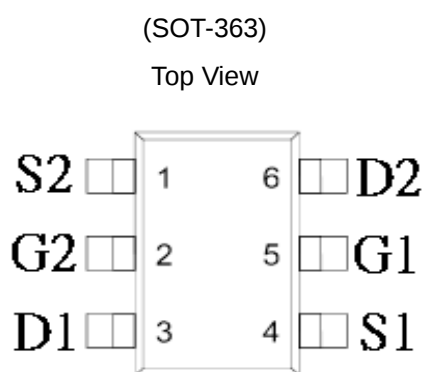


GENERAL DESCRIPTION

The ME2N7002DKW-G is the Dual N-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management and other battery powered circuits , and low in-line power loss are needed in a very small outline surface mount package.

PIN CONFIGURATION



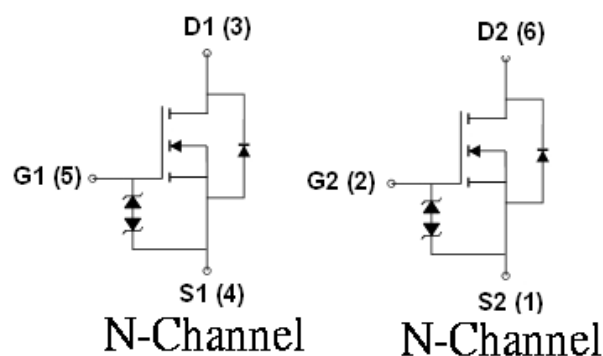
Ordering Information: ME2N7002DKW-G (Green product-Halogen free)

FEATURES

- $R_{DS(ON)} \leq 3\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leq 4\Omega @ V_{GS}=4.5V$
- $R_{DS(ON)} \leq 4.5\Omega @ V_{GS}=3V$
- ESD Protection HBM >2KV
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

APPLICATIONS

- Power Management in Note book
- DC/DC Converter
- Load Switch
- LCD Display inverter



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ Unless Otherwise Noted)

Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain	$T_A=25^\circ\text{C}$	I_D	0.3	A
	$T_A=70^\circ\text{C}$	I_D	0.2	
Pulsed Drain Current		I_{DM}	1.1	A
Maximum Power Dissipation	$T_A=25^\circ\text{C}$	P_D	0.3	W
	$T_A=70^\circ\text{C}$	P_D	0.2	
Operating Junction Temperature		T_J	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient (Note 1)		$R_{\theta JA}$	375	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient (Note 2)		$R_{\theta JA}$	318	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case (Note 2)		$R_{\theta JC}$	135	$^\circ\text{C/W}$

Note1. The device mounted on 1in^2 FR4 board with 2 oz copper

Note2. The device mounted on 1in^2 FR4 board with 2 oz copper, with thermal vias to bottom layer 1in^2 copper plate

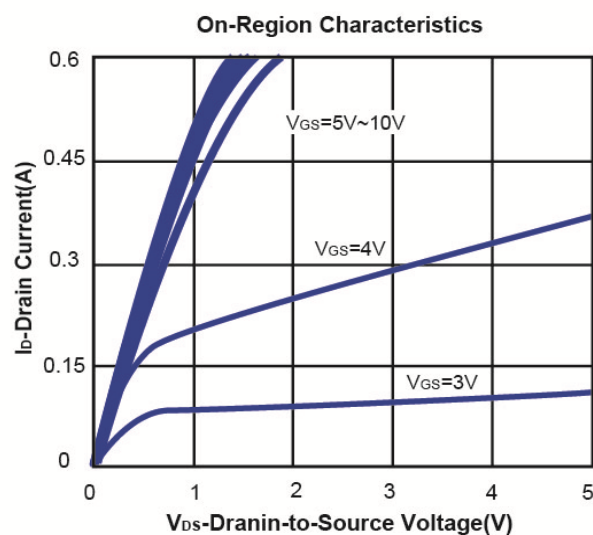
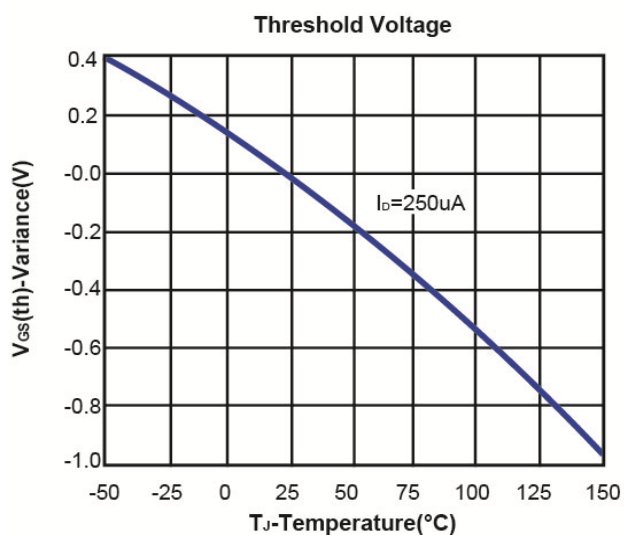
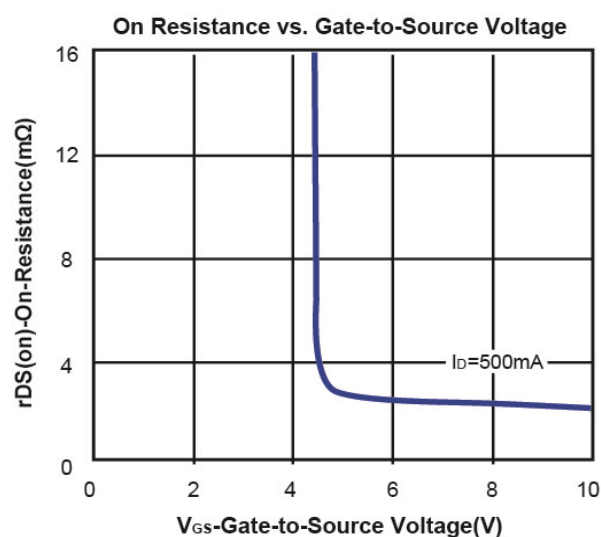
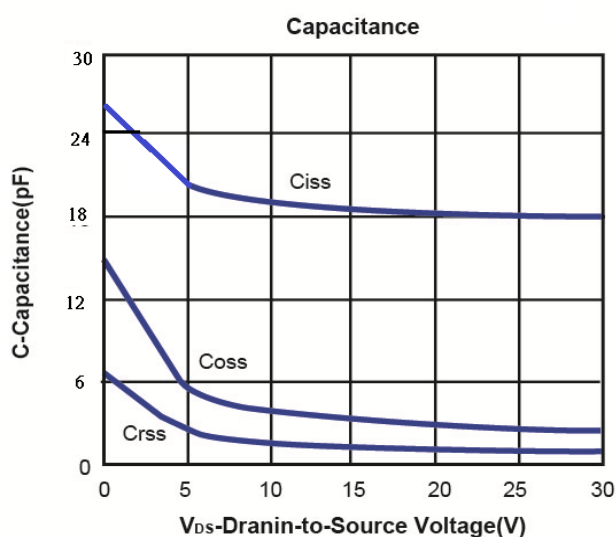
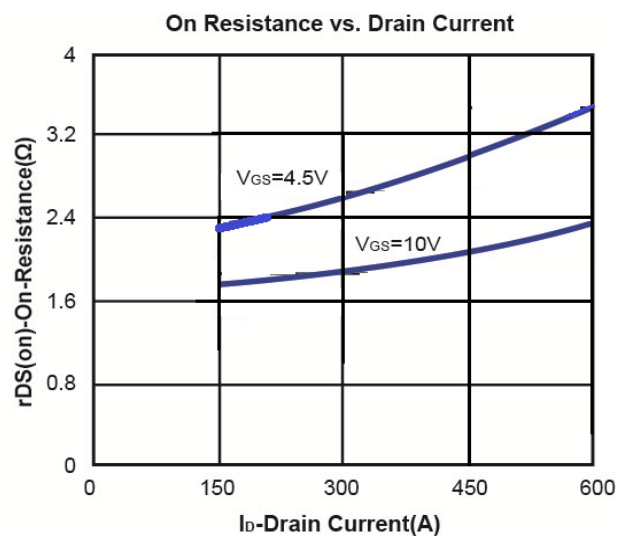
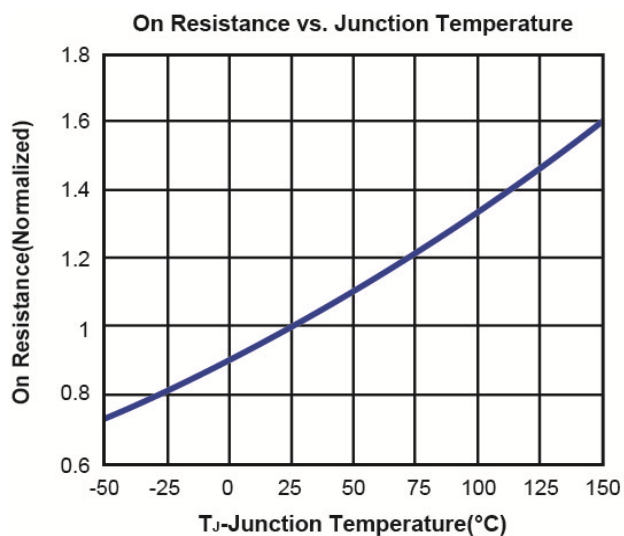
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1		2.5	V
I_{GSS}	Gate-Body Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=60V, V_{GS}=0V$			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance*	$V_{GS}=10V, I_D=500mA$		2	3	Ω
		$V_{GS}=4.5V, I_D=200mA$		2.4	4	
		$V_{GS}=3V, I_D=10mA$		3.9	4.5	
V_{SD}	Diode Forward Voltage *	$I_S=200mA, V_{GS}=0V$		0.82	1.2	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=30V, V_{GS}=10V, I_D=200mA$		4.5		nC
Q_g	Total Gate Charge	$V_{DS}=30V, V_{GS}=4.5V, I_D=200mA$		1.4		
Q_{gs}	Gate-Source Charge			2.6		
Q_{gd}	Gate-Drain Charge			0.4		
C_{iss}	Input Capacitance	$V_{DS}=30V, V_{GS}=0V, f=1MHz$		21		pF
C_{oss}	Output Capacitance			3		
C_{rss}	Reverse Transfer Capacitance			1		
$t_{d(on)}$	Turn-On Delay Time	$V_{DS}=30V, R_L=150\Omega$ $V_{GS}=10V, R_{GS}=10\Omega$ $I_D=200mA$		6.8		ns
t_r	Turn-On Rise Time			2.4		
$t_{d(off)}$	Turn-Off Delay Time			15		
t_f	Turn-Off Fall Time			27.3		

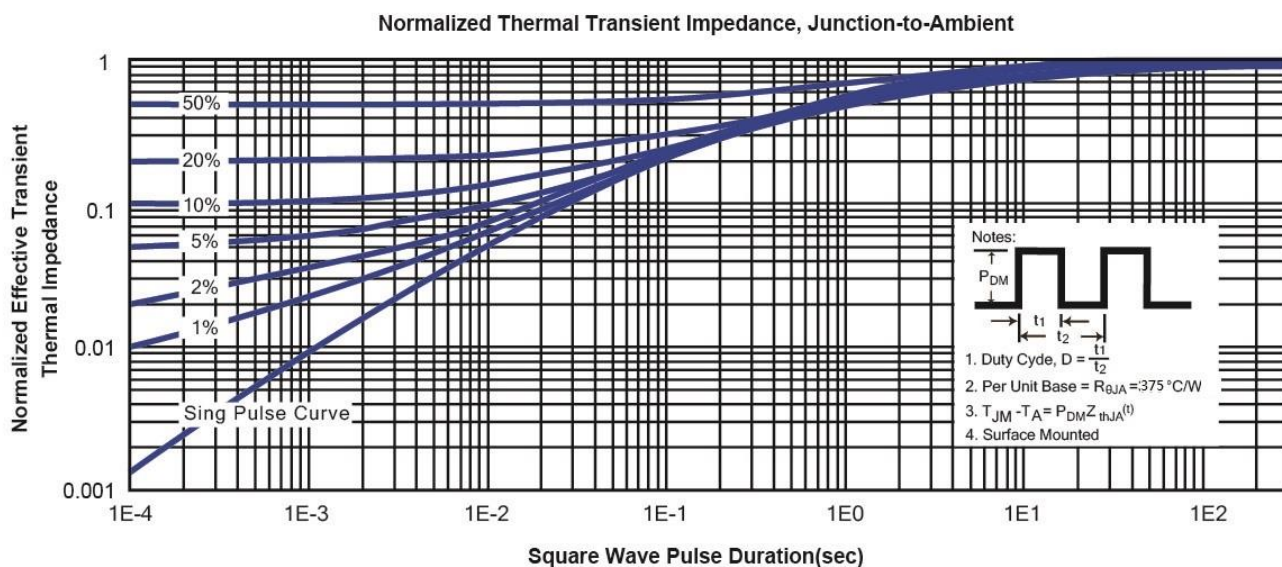
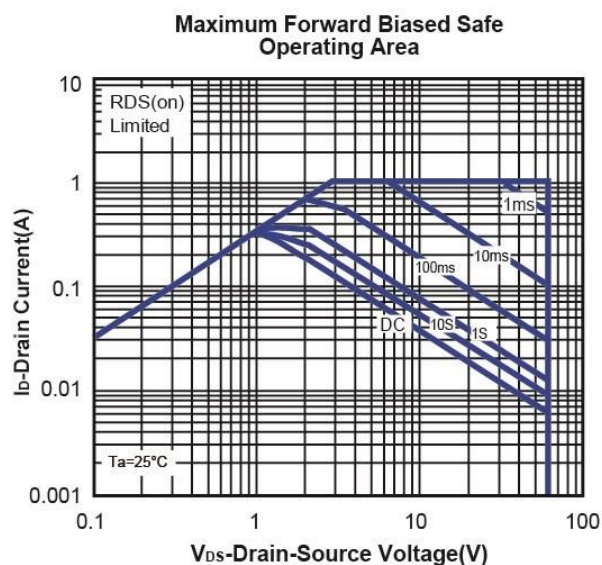
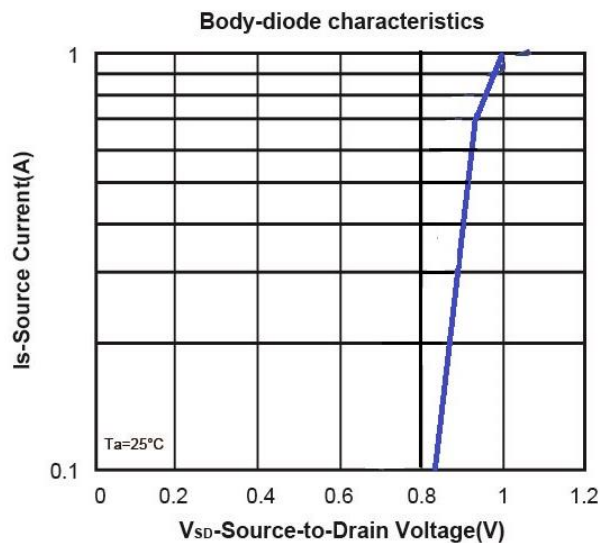
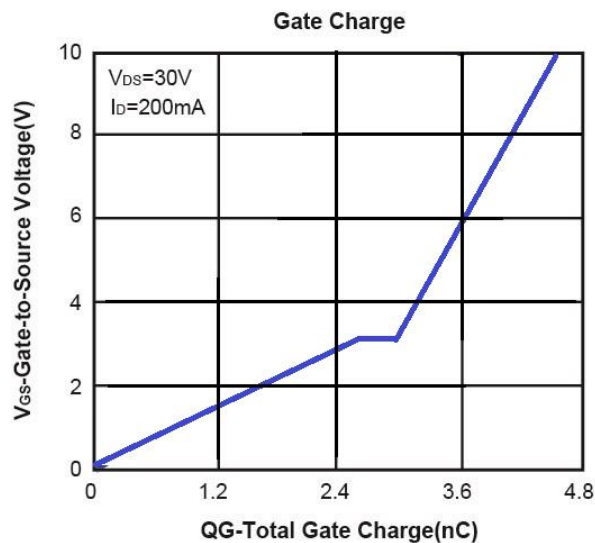
Notes: a, pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$, Guaranteed by design, not subject to production testing.

b. Force mos reserves the right to improve product design, functions and reliability without notice.

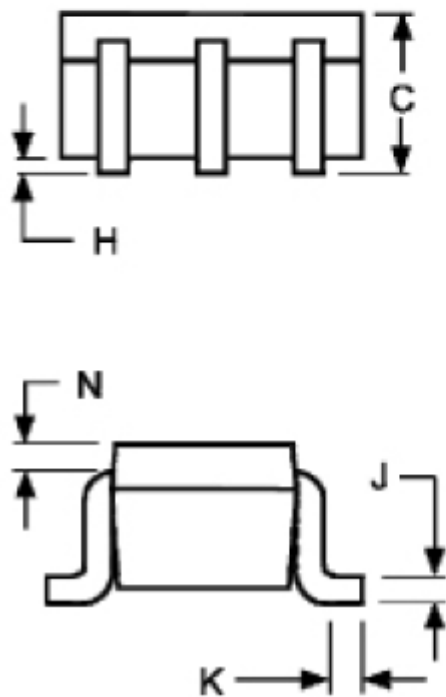
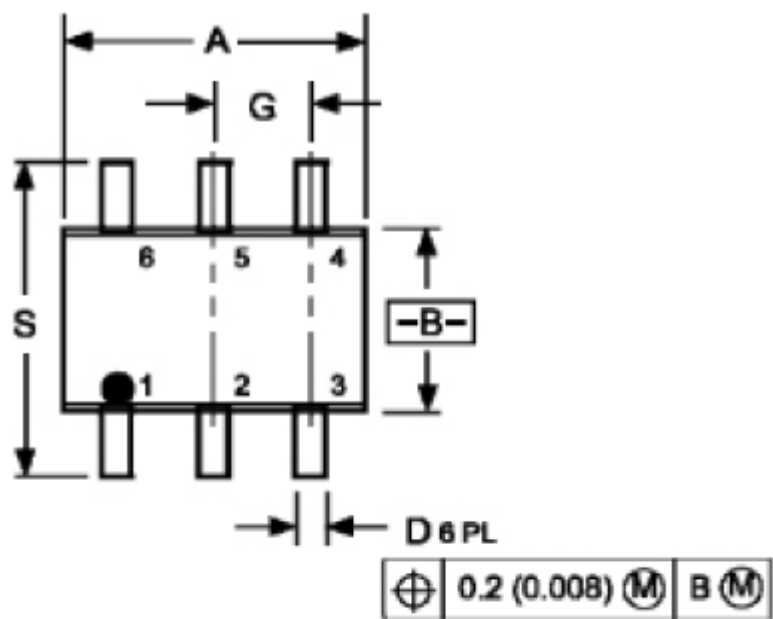
Typical Characteristics (T_J = 25°C Noted)



Typical Characteristics (T_J =25°C Noted)



SOT-363 Package Outline



DIM	INCHES		MILLMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.012	0.018	0.30	0.45
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

Device name: ME2N7002DKW-G

Package: SOT-363

Marking Code:



D76:DeviceMarkingCode
M:Date code

MONTH CODE

ODD YEARS(2007,2009)

Jan	1
Feb	2
Mar	3
Apr	4
May	5
Jun	6
Jul	7
Aug	8
Sep	9
Oct	T
Nov	V
Dec	C

EVEN YEARS(2006,2008)

Jan	E
Feb	F
Mar	H
Apr	J
May	K
Jun	L
Jul	N
Aug	P
Sep	U
Oct	X
Nov	Y
Dec	Z