Features

- Fast Switching
- Improved dv/dt Capability
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note1)
- 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 +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.76°C/W Junction to Case

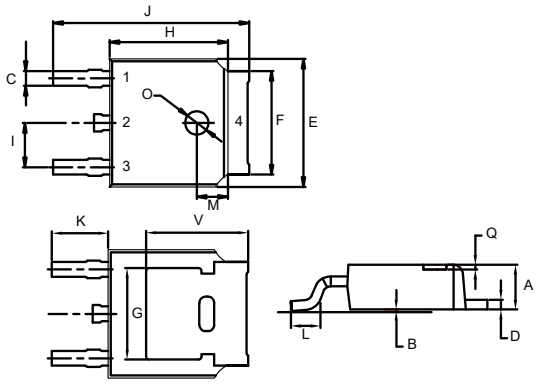
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Volltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25°C	I_D	80	A
	T_C=100°C		56	A
Pulsed Drain Current		I_{DM}	150	A
Single Pulse Avalanche Energy (Note 2)		E_{AS}	290	mJ
Total Power Dissipation		P_D	85	W

Note:

1.Halogen free "Green” products are defined as those which contain <900 ppm bromine,<900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

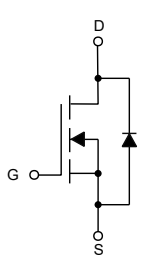
2.EAS Condition: T_J=25°C,V_{DD}=30V,V_G=10V,L=0.5mH,R_g=25Ω.

DPAK

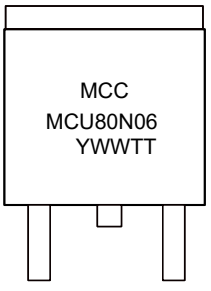


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

Internal Structure and Marking Code



1.GATE
2.DRAIN
3.SOURCE
4.DRAIN



YWWTT: 5 codes in total
Y is the year
WW is the cycle
TT is the line type

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	60			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V			1	μA
Gate-Threshold Voltage(Note 3)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1	1.6	2.4	V
Drain-Source On-Resistance(Note 3)	$R_{DS(on)}$	V_{GS}=10V, I_D=30A		11.3	13	mΩ
Forward Tranconductance(Note 3)	g_{FS}	V_{DS}=10V, I_D=5.5A	30			S
Dynamic Characteristics(Note 4)						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		2498		pF
Output Capacitance	C_{oss}			185		
Reverse Transfer Capacitance	C_{rss}			80		
Total Gate Charge	Q_g	V_{DS}=30V,V_{GS}=10V,I_D=30A		36		nC
Gate-Source Charge	Q_{gs}			9.6		
Gate-Drain Charge	Q_{gd}			6.6		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=30V,I_D=2A,R_L=1Ω V_{GS}=10V,R_{GEN}=3Ω		12		ns
Turn-On Rise Time	t_r			5.2		
Turn-Off Delay Time	$t_{d(off)}$			38		
Turn-Off Fall Time	t_f			27		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S				80	A
Body Diode Voltage(Note 3)	V_{SD}	I_S=20A, V_{GS}=0V			1.4	V
Reverse Recovery Time	t_{rr}	T_J=25°C, I_F=30A, di/dt=100A/μs(Note 3)		280		ns
Reverse Recovery Charge	Q_{rr}			2.8		μC
Forward Turn-On Time	t_{on}	Intrinsic Turn-On Time is Negligible (Turn-On is Dominated by LS+LD)				

Note 3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 1%.

4. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

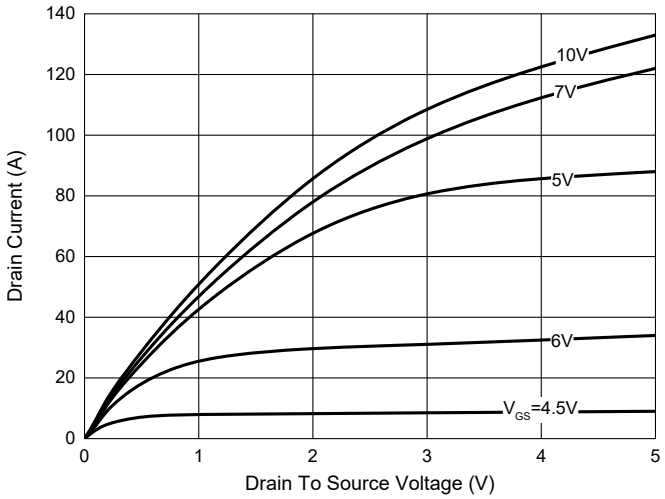


Fig. 2 - Transfer Characteristics

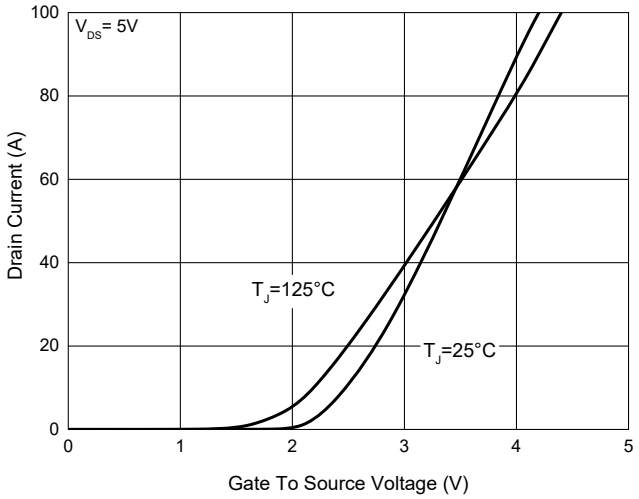


Fig. 3 - Capacitance Characteristics

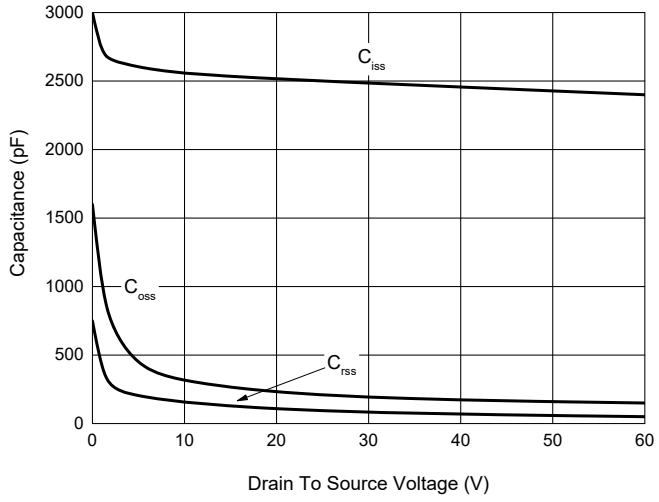


Fig. 4 - Gate Charge Characteristics

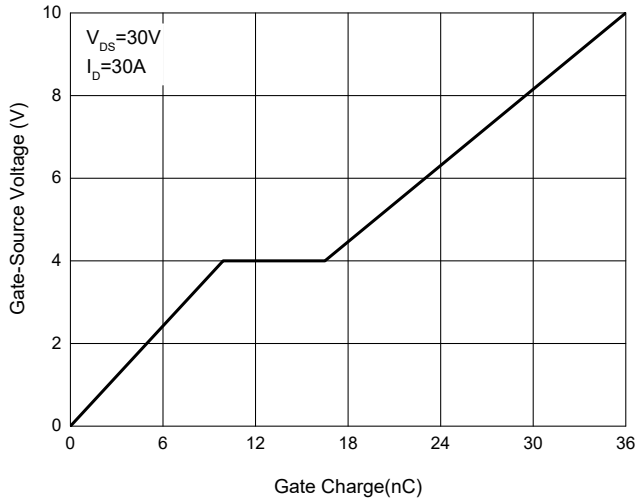


Fig. 5 - $R_{DS(ON)}$—I_D

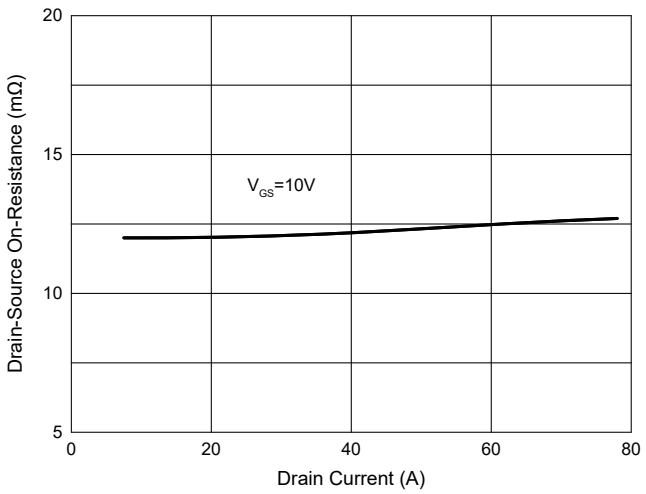
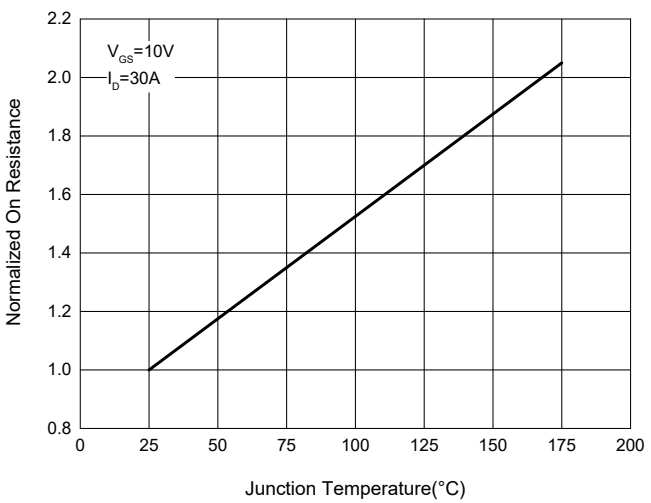


Fig. 6 - Normalized On Resistance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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