

Features

- High Density Cell Design for Ultra Low $R_{DS(on)}$
- Fully Characterized Avalanche Voltage and Current
- Good Stability and Uniformity with High E_{AS}
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

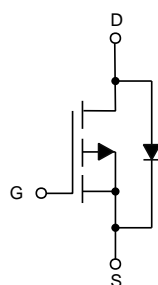
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 1.4°C/W Junction to Case (Note 2)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	-60	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current	T _C =25°C	I _D	-25	A
	T _C =100°C		-17.7	A
Pulsed Drain Current		I _{DM}	-60	A
Single Pulse Avalanche Energy ^(Note 3)		E _{AS}	300	mJ
Total Power Dissipation		P _D	90	W

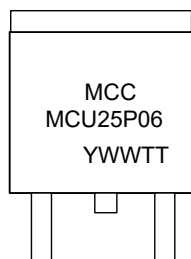
Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in ² FR-4 board with 2oz. copper, in a still air environment with $T_A=25^\circ\text{C}$.
3. $T_J=25^\circ\text{C}$, $V_{DD}=-20\text{V}$, $V_G=-10\text{V}$, $L=1\text{mH}$, $R_g=25\Omega$, $I_{AS}=33\text{A}$.

Internal Structure and Marking Code



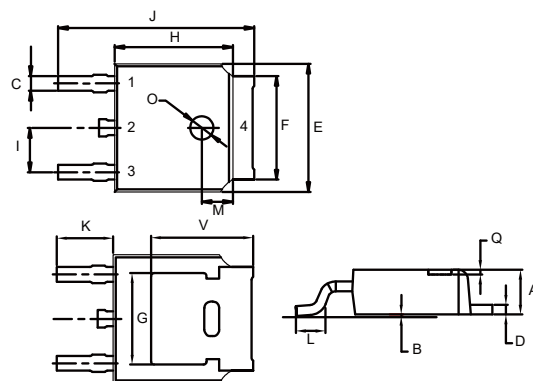
1. GATE
2. DRAIN
3. SOURCE
4. DRAIN



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

P-CHANNEL MOSFET

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.

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 4)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-2	-2.9	-3.5	V
Drain-Source On-Resistance ^(Note 4)	R _{DS(on)}	V _{GS} =-10V, I _D =-20A		39	45	mΩ
Forward Tranconductance ^(Note 4)	g _{FS}	V _{DS} =-10V, I _D =-10A		25		S
Dynamic Characteristics ^(Note 5)						
Input Capacitance	C _{iss}	V _{DS} =-30V, V _{GS} =0V, f=1MHz		3430		pF
Output Capacitance	C _{oss}			391		
Reverse Transfer Capacitance	C _{rss}			272		
Total Gate Charge	Q _g	V _{DS} =-30V, V _{GS} =-10V, I _D =-20A		46		nC
Gate-Source Charge	Q _{gs}			9.5		
Gate-Drain Charge	Q _{gd}			10.5		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-30V, R _L =1.5Ω, V _{GS} =-10V, R _G =3Ω		12		ns
Turn-On Rise Time	t _r			15		
Turn-Off Delay Time	t _{d(off)}			38		
Turn-Off Fall Time	t _f			15		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I _S	T _C =25°C			-25	A
Body Diode Voltage	V _{SD}	I _{SD} =-10A, V _{GS} =0V			-1.2	V
Reverse Recovery Time	t _{rr}	T _J =25°C, I _F =-10A, di/dt=-100A/μs		47		ns
Reverse Recovery Charge	Q _{rr}			53		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 $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

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

Curve Characteristics

Fig. 1 - Typical Output Characteristics

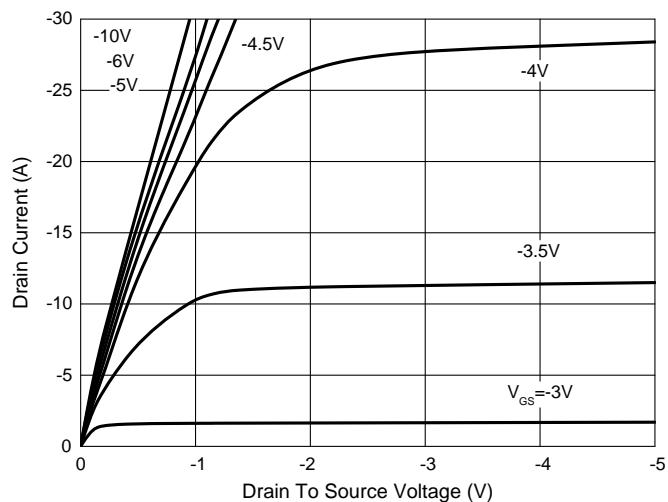


Fig. 2 - Transfer Characteristics

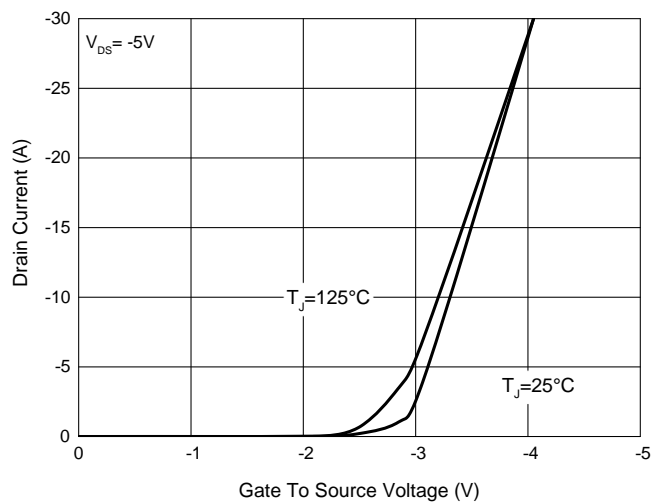


Fig. 3 - $R_{DS(ON)} - I_D$

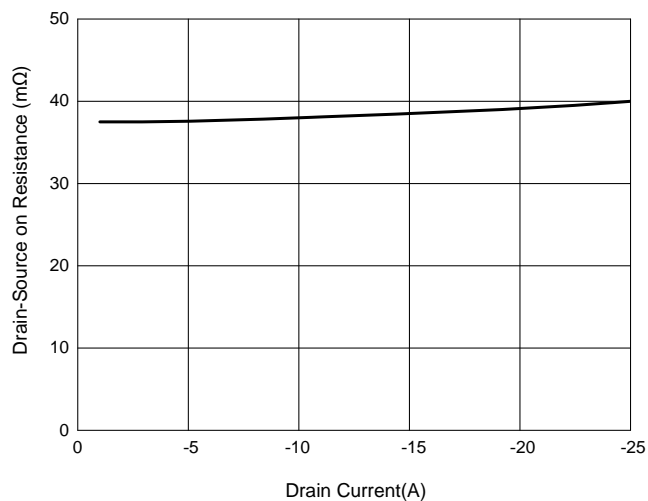


Fig. 4 - Normalized On Resistance Characteristics

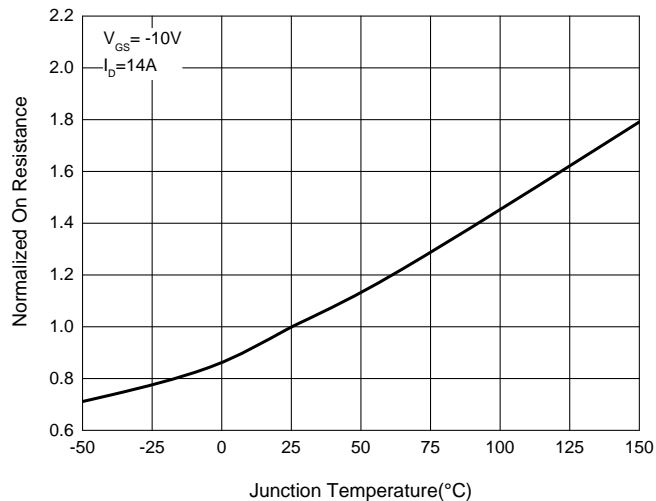


Fig. 5 - Capacitance Characteristics

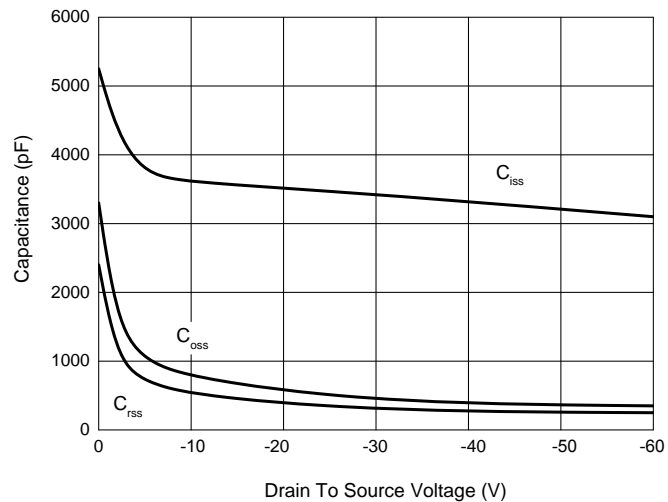
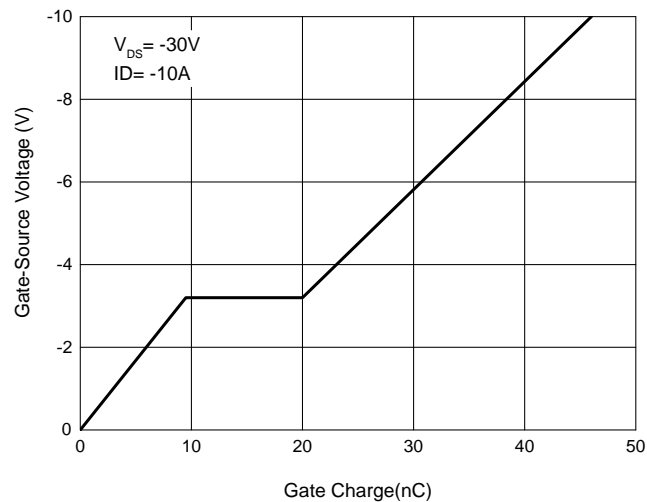


Fig. 6 - Gate Charge Characteristics



Ordering Information

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

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