

Features

- Fast Switching
- · Improved dv/dt Capability
- · Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device
- 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

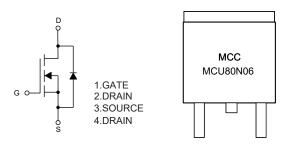
Parameter		Symbol	Value	
Drain-source Voltage		V_{DS}	60V	
Gate-source Volltage		V_{GS}	±20V	
Drain Current	T _C =25°C	ı	80A	
	T _C =100°C	I _D	56A	
Pulsed Drain Current		I _{DM}	240A	
Power Dissipation		P_{D}	68W	
Single Pulsed Avalanche Energy ⁽¹⁾		E _{AS}	225mJ	

Note: 1. Eas Condition: Tj=25 $^{\circ}\text{C}$,VDD=30V,VG=10V,L=0.5mH,Rg=25 Ω

DPAK

DIMENSIONS						
DIM	INCHES		MM		NOTE	
DIIVI	MIN	MAX	MIN	MAX	NOTE	
Α	0.087	0.094	2.20	2.40		
В	0.000	0.005	0.00	0.13		
С	0.026	0.034	0.66	0.86		
D	0.018	0.023	0.46	0.58		
Е	0.256	0.264	6.50	6.70		
F	0.201	0.215	5.10	5.46		
G	0.190		4.83		TYP.	
Н	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	0.1	14	2.9	90	TYP.	
L	0.055	0.067	1.40	1.70		
M	0.0	63	1.6	60	TYP.	
0	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



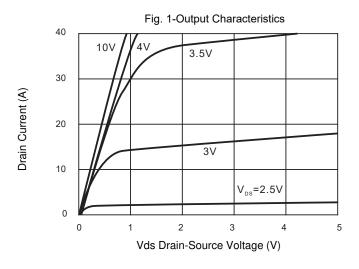


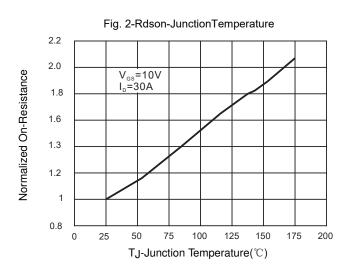
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

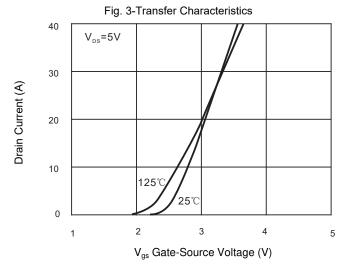
Parameter	Symbol	Condition	Min	Тур	Max	Unit
Off Characteristics	<u>.</u>		•			
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =250μA	60	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V_{DS} =60V, V_{GS} =0V	-	-	1	μΑ
Gate-Body Leakage Current	I _{GSS}	$V_{GS}=\pm20V, V_{DS}=0V$	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage	V _{GS(th)}	$V_{DS}=V_{GS}$, $I_{D}=250\mu A$	1.2	1.7	2	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =20A		5.5	7.5	mΩ
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =4.5V, I _D =10A		6.9	9.5	mΩ
Forward Transconductance	g Fs	$V_{DS}=5V,I_{D}=30A$	30	-	-	S
Dynamic Characteristics						
Input Capacitance	C _{lss}	V 20VV 0V	-	1990	-	PF
Output Capacitance	Coss	$V_{DS}=30V, V_{GS}=0V,$ $F=1.0MHz$	-	470	-	PF
Reverse Transfer Capacitance	C _{rss}	F=1.UIVIFIZ	-	14	-	PF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}		-	16	-	nS
Turn-on Rise Time	t _r	V_{DD} =30 V , I_D =2 A , R_L =1 Ω	-	8	-	nS
Turn-Off Delay Time	t _{d(off)}	$V_{GS}=10V,R_{GEN}=3\Omega$	-	45	-	nS
Turn-Off Fall Time	t _f		-	33	-	nS
Total Gate Charge	Qg	V 00VI 00A	-	31	-	nC
Gate-Source Charge	Q_gs	$V_{DS}=30V,I_{D}=20A,$ $V_{GS}=10V$	-	6	-	nC
Gate-Drain Charge	Q_{gd}	V _{GS} =10V	-	5	-	nC
Drain-Source Diode Characteristics			•	•		•
Diode Forward Voltage	V _{SD}	$V_{GS}=0V,I_{S}=30A$	-	-	1.2	V
Diode Forward Current	Is		-	-	80	Α
Reverse Recovery Time	t _{rr}	TJ = 25℃, IF =30A	-	35		nS
Reverse Recovery Charge	Q _{rr}	di/dt = 100A/µs	-	47		nC
Forward Turn-On Time	t _{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

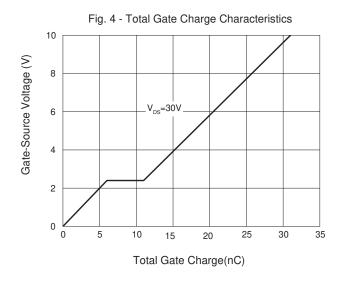


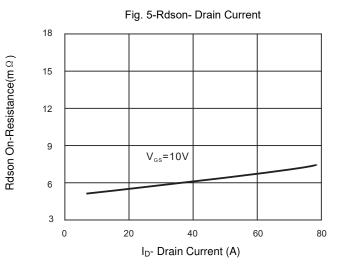
Curve Characteristics

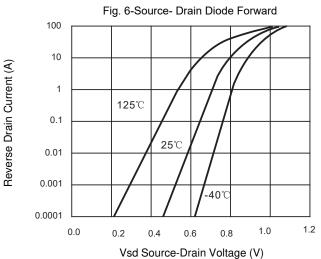






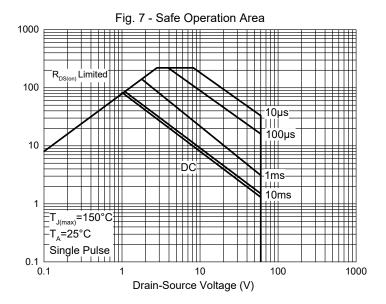








Curve Characteristics





Ordering Information

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

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