

**Micro Commercial Components** 

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## **Features**

- High density cell design for ultra low RDS(ON)
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation
- Lead Free Finish/Rohs Compliant ("P"Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	-100	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	I <sub>D</sub>	-6	А
Pulsed Drain Current(note1)	I <sub>DM</sub>	-30	А
Power Dissipation	Pd	1.25	W
Junction Temperature	TJ	150	ĉ
Storage Temperature Range	T <sub>STG</sub>	-55 ~+150	°C

## EQUIVALENT CIRCUIT



# P-Channel Power MOSFET



**MCT06P10** 

2&4. DRAIN 3. SOURCE

	INC	HES	N	1M	
DIM	MIN	MAX	MIN	MAX	NOTE
А	.248	.264	6.30	6.70	
В	.130	.146	3.30	3.70	
С	.264	.287	6.70	7.30	
D	.001	.004	0.02	0.10	
Е	.114	.122	2.90	3.10	
F	.(	091	2.	30	
G		.071		1.80	
Н	.009	.014	0.23	0.35	
J	.030		0.75		

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

Parameter	Symbol	Condition	Min	Тур	Max	Unit
Off Characteristics			•			•
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =-250µA	-100	-	-	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-100V,V <sub>GS</sub> =0V	-	-	1	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	$V_{GS}$ =±16V, $V_{DS}$ =0V	-	-	±10	μA
On Characteristics						
Gate Threshold Voltage	V <sub>GS(th)</sub>	$V_{DS}=V_{GS}$ , $I_{D}=-250\mu A$	-1.2	-1.75	-2.8	V
Drain-Source On-State Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-6A	-		205	mΩ
Drain-Source On-State Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-6A	-		250	mΩ
Forward Transconductance	<b>g</b> fs	V <sub>DS</sub> =-15V,I <sub>D</sub> =-5A	10	-	-	S
Dynamic Characteristics						
Input Capacitance	C <sub>lss</sub>	- V <sub>DS</sub> =-25V,V <sub>GS</sub> =0V,	-	760	-	PF
Output Capacitance	C <sub>oss</sub>		-	260	-	PF
Reverse Transfer Capacitance	C <sub>rss</sub>	F = 1.010112	-	170	-	PF
Switching Characteristics						
Turn-on Delay Time	t <sub>d(on)</sub>		-	14	-	nS
Turn-on Rise Time	tr	V <sub>DD</sub> =-50V,I <sub>D</sub> =-6A V <sub>GS</sub> =-10V,R <sub>GEN</sub> =9.1Ω	-	18	-	nS
Turn-Off Delay Time	t <sub>d(off)</sub>		-	50	-	nS
Turn-Off Fall Time	t <sub>f</sub>		-	18	-	nS
Total Gate Charge	Qg	$V_{DS}$ =-50V,I <sub>D</sub> =-6A,	-	25	-	nC
Gate-Source Charge	Q <sub>gs</sub>		-	5	-	nC
Gate-Drain Charge	Q <sub>gd</sub>	V <sub>GS</sub> =-10V	-	7	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	$V_{SD}$	V <sub>GS</sub> =0V,I <sub>S</sub> =-6A	-	-	-1.2	V
Diode Forward Current	ls	-	-	-	-13	Α
Reverse Recovery Time	t <sub>rr</sub>	TJ = 25°C, IF =-6A	-	35	-	nS
Reverse Recovery Charge	Qrr	di/dt = 100A/µs <sup>(Note3)</sup>	-	46	-	nC
Forward Turn-On Time	t <sub>on</sub>	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

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## **Typical Characteristics**



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**Revision:**A

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## **Ordering Information :**

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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