

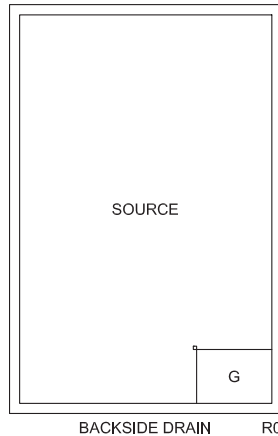
The CP775 medium power P-Channel MOSFET is designed for power management and load switching applications. The 7.5 mil thick die provides an ultra low profile device that is readily attached using standard die attach wire bond processes.

APPLICATIONS:

- Load switching
- Power management
- DC-DC conversion

FEATURES:

- Low on-resistance, $r_{DS(ON)}$
- Low gate charge, Q_{GS}
- High drain current density



MECHANICAL SPECIFICATIONS:

Die Size	90 x 60 MILS
Die Thickness	7.5 MILS
Gate Bonding Pad Area	14.1 x 18.8 MILS
Source Bonding Pad Area	52 x 88 MILS
Top Side Metalization	Al - 40,000Å
Back Side Metalization	Ti/Ni/Ag - 1,000Å/3,000Å/10,000Å
Scribe Alley Width	3.15 MILS
Wafer Diameter	8 INCHES
Gross Die Per Wafer	8,000

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current (Steady State)	I_D	11	A
Maximum Pulsed Drain Current, $t_p=10\mu\text{s}$	I_{DM}	50	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20\text{V}, V_{DS}=0$			100	nA
I_{DSS}	$V_{DS}=30\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	1.0	1.4	3.0	V
V_{SD}	$V_{GS}=0, I_S=2.6\text{A}$			1.3	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=11\text{A}$		12	20	$\text{m}\Omega$
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=8.5\text{A}$		15	30	$\text{m}\Omega$
C_{rss}	$V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		450		pF
C_{iss}	$V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		3100		pF
C_{oss}	$V_{DS}=8.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		320		pF

CP775

P-Channel MOSFET Die

Enhancement-Mode

ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$Q_{g(\text{tot})}$	$V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$		80		nC
Q_{gs}	$V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$		7.0		nC
Q_{gd}	$V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=11\text{A}$		10.1		nC
t_{on}	$V_{DD}=15\text{V}, V_{GS}=10\text{V}, I_D=1.0\text{A}$		49		ns
t_{off}	$R_G=6.0\Omega, R_L=15\Omega$		330		ns

CP775

Typical Electrical Characteristics

