



High Voltage Power MOSFET Die

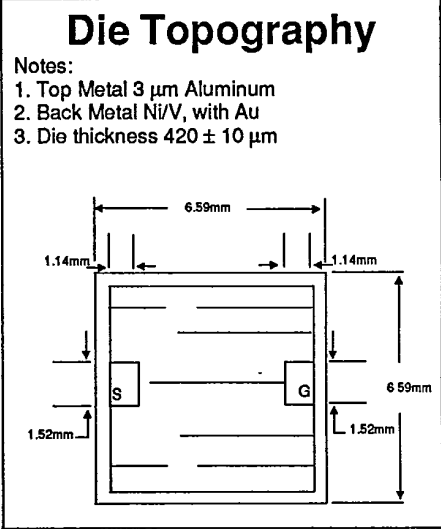
N-Channel Enhancement Mode High Ruggedness Series

IRFC250

$V_{(BR)DSS}$ 200V
 $R_{DS(on)}$ 0.085 Ω

The following device types use the IRFC250:

- | | |
|----------------|----------------|
| 2N6766 | IRF254/IRFP254 |
| 2N6765 | |
| IRF250/IRFP250 | |
| IRF251/IRFP251 | |
| IRF252/IRFP252 | |
| IRF253/IRFP253 | |



Notes:
 1. Top Metal 3 μ m Aluminum
 2. Back Metal Ni/V, with Au
 3. Die thickness 420 \pm 10 μ m

FEATURES:

- Fast switching times
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Excellent high voltage stability
- Low input capacitance
- Improved high temperature reliability

APPLICATIONS:

- Switching power supplies
- Motor controls
- Audio Amplifiers
- Inverters
- Choppers

ELECTRICAL CHARACTERISTICS: (TA=25 °C unless otherwise specified)

CHARACTERISTIC	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Drain-Source Breakdown Voltage	$V_{GS} = 0 V, I_D = 250 \mu A$	$V_{(BR)DSS}$	200	—	—	V
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250 \mu A$	$V_{GS(th)}$	2.0	—	4.0	V
Gate-Source Leakage Current	$V_{GS} = \pm 20 V_{bc}$	I_{GSS}	—	—	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS} = V_{(BR)DSS} \times 0.8, V_{GS} = 0 V$ $T_C = 25^\circ C$ $T_C = 125^\circ C$	I_{DSS}	—	—	250	μA
		I_{DSS}	—	—	1000	μA
Static Drain-Source On-Resistance	$V_{GS} = 10 V, I_D = 15 A$	$R_{DS(ON)}$	—	—	0.085	Ω
Ciss Input Capacitance	$V_{GS} = 0V, V_{DS} = 25 V, f = 1.0 MHz$	Ciss	—	—	3000	pF
Coss Output Capacitance	Pulse Test: Pulse width $\leq 300ms$, duty cycle $\leq 2\%$	Coss	—	—	650	pF
Crss Reverse Transfer Capacitance		Crss	—	—	300	pF

NOTES:

1. I_D based on $R_{thJC} = 0.83 \text{ }^\circ C/W$
2. ASSEMBLY RECOMMENDATIONS:
 - a) 10 mil Gate and 15 mil Source wires
 - b) Drain mounted with 92.5/5/2.5% Lead/Indium/Silver solder, or 95/5% Lead/tin solder
3. Devices shipped in ESD protected waffle packs with a maximum of 25 die per waffle pack.
4. Die should be handled and assembled in clean room environment.
5. Die should be stored in inert atmosphere (1 atmosphere N₂)

IXYS Corporation reserves the right to change limits, test conditions, and dimensions without notice.