

# EVVOSEMI<sup>®</sup>

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

## Product Specification

▶ Domestic	Part Number	IRFP150N
▶ Overseas	Part Number	IRFP150N
▶ Equivalent	Part Number	IRFP150N

EV is the abbreviation of name EVVO

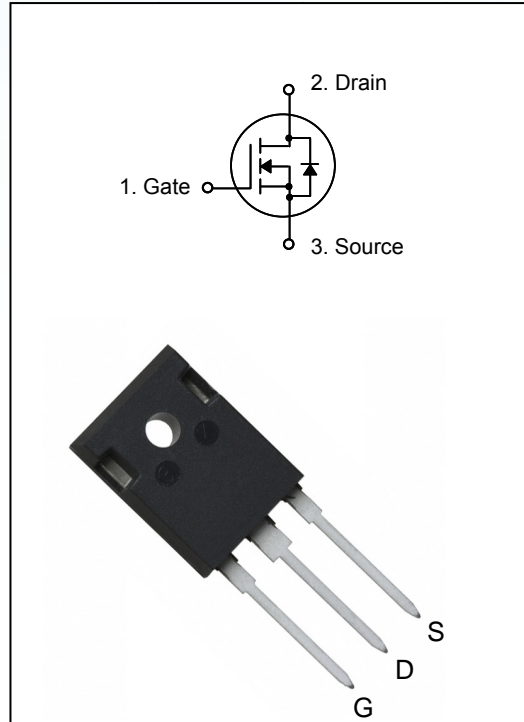
## 100V,60A Heatsink N-Channel Type Power MOSFET

### General Features

- $V_{DS}=100V, I_D=60A$
- $R_{dson} \leq 30m\Omega @ V_{GS}=10V$  (Typ:25m $\Omega$ )
- Extended Safe Operating Area
- Low Reverse transfer capacitances
- 100% Single Pulse avalanche energy Test

### Application

- Power switching application
- Load switch



### Electrical Characteristics @ $T_a=25^\circ C$ (unless otherwise specified)

#### a) Limited Parameters:

Symbol	Parameter	Value	Units
$V_{DSS}$	Drain-to-Source Breakdown Voltage	100	V
$I_D$	Drain Current (continuous) at $T_c=25^\circ C$	60	A
$I_{DM}$	Drain Current (pulsed)	240	A
$V_{GS}$	Gate to Source Voltage	+/-25	V
$P_{tot}$	Total Dissipation at $T_c=25^\circ C$	300	W
$T_j$	Max. Operating Junction Temperature	175	$^\circ C$
Eas	Single Pulse Avalanche Energy	750	mj

**b) Electrical Parameters:**

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{DS}$	Drain-source Voltage	$V_{GS}=0V, I_D=250\mu A$	100	120		V
$R_{DS(on)}$	Static Drain-to-Source on-Resistance	$V_{GS}=10V, I_D=30A$		25	30	m $\Omega$
$V_{GS(th)}$	Gated Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	3.0	4.0	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=100V, V_{GS}=0V$			1.0	$\mu A$
$I_{GSS(F)}$	Gated Body Leakage Current	$V_{GS}=+25V,$			100	nA
$I_{GSS(R)}$	Gated Body Leakage Current	$V_{GS}=-25V,$			-100	nA
$C_{iss}$	Input Capacitance	$V_{GS}=0V,$		4200		pF
$C_{oss}$	Output Capacitance	$V_{DS}=30V,$		440		pF
$C_{rss}$	Reverse Transfer Capacitance	$f=1.0MHz$		218		pF
$Q_g$	Total Gate Charge	$V_{DS}=80V$		92		nC
$Q_{gs}$	Gate-Source Charge	$I_D=40A$		25		nC
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=10V$		31		nC

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=35V, I_D=10A$		16		nS
$t_r$	Turn-on Rise Time	$V_{GS}=10V, R_G=6\Omega$		26		nS
$t_{d(off)}$	Turn-off Delay Time			70		nS
$t_f$	Turn-off Fall Time			71		nS

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$I_{SD}$	S-D Current(Body Diode)			60		A
$I_{SDM}$	Pulsed S-D Current(Body Diode)			240		A
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_{DS}=40A$			1.3	V
$t_{rr}$	Reverse Recovery Time	$T_J=25^\circ C, I_F=40A$		82		nS
$Q_{rr}$	Reverse Recovery Charge	$di/dt=100A/us$		150		nC
*Pulse Test: Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 2\%$						

Symbol	Parameter	Typ	Units
$R_{\theta JC}$	Junction-to-Case	0.6	$^\circ C/W$



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