

N-Channel Power MOSFET (100V/59A)

Purpose

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products

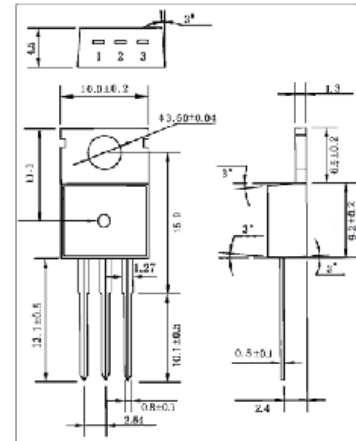
Feature

Low $R_{DS(on)}$, low gate charge, low C_{rSS} , fast switching.

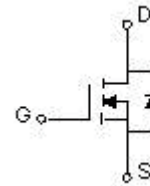
Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Symbol	Rating	Unit
V_{DSS}	100	V
$I_D (T_c=25^\circ\text{C})$	59	A
$I_D (T_c=100^\circ\text{C})$	42	A
I_{DM}	240	A
V_{GSS}	± 20	V
I_{AR}	15	A
E_{AS}	170	mJ
$P_D (T_c=25^\circ\text{C})$	160	W
T_J, T_{STG}	-55 to 150	$^\circ\text{C}$
$R_{\theta JA}$	40	$^\circ\text{C}/\text{W}$

T0-220



1. Gate 2. Drain 3. Source



Electrical Characteristics ($T_a=25^\circ\text{C}$)

Symbol	Test Conditions		Min	Typ	Max	Unit
BV_{DSS}	$V_{GS}=0V$	$I_D=250 \mu A$	100			V
I_{DSS}	$V_{DS}=100V$	$V_{GS}=0V$			20	μA
	$V_{DS}=100V$	$V_{GS}=0V$			250	μA
I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 0.2	μA
$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250 \mu A$	2.0		4.0	V
$R_{DS(on)}$	$V_{GS}=10V$	$I_D=35A$		14	18	m Ω
g_{FS}	$V_{DS}=50V$	$I_D=35A$	35			S
V_{SD}	$V_{GS}=0V$	$I_S=35A$			1.3	V
C_{iss}	$V_{DS}=25V$	$V_{GS}=0V$	$f=1\text{MHz}$	2900		pF
C_{oss}				290		
C_{rSS}				150		
$t_{d(on)}$	$V_{DD}=50V$	$I_D=35A$	$R_G=6.8 \Omega$	17		ns
t_r				77		
$t_{d(off)}$				41		
t_f				56		



IRF3710

Typical Electrical and Thermal Characteristics (Curves)

