

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

### Purpose

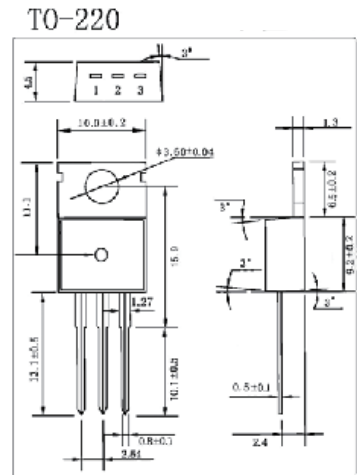
Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products

### Feature

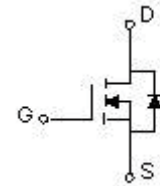
Low  $R_{DS(on)}$ , low gate charge, low  $C_{rSS}$ , fast switching.

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

Symbol	Rating	Unit
$V_{DSS}$	100	V
$I_D (T_c=25^\circ\text{C})$	100	A
$I_{DM}$	320	A
$V_{GSS}$	$\pm 20$	V
$E_{AS}$	597	mJ
$I_{AR}$	100	A
$P_D (T_c=25^\circ\text{C})$	131	W
$T_J, T_{STG}$	-55 to 150	$^\circ\text{C}$



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
$I_{DSS}$	$V_{DS}=100V$	$V_{GS}=0V$			1	$\mu A$
	$V_{DS}=84V$	$T_c=125^\circ\text{C}$			10	$\mu A$
$I_{GSS}$	$V_{GS}=\pm 20V$	$V_{DS}=0V$			$\pm 0.1$	$\mu A$
$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250 \mu A$	2		4	V
$R_{DS(on)}$	$V_{GS}=10V$	$I_D=50A$		9.5	10.8	m $\Omega$
$g_{FS}$	$V_{DS}=15V$	$I_D=20A$		45		S
$V_{SD}$	$V_{GS}=0V$	$I_S=100A$			1.4	V
$C_{iss}$				5110		pF
$C_{oss}$	$V_{DS}=40V$	$V_{GS}=0V$	$f=1\text{MHz}$	334		pF
$C_{rSS}$				150		pF
$t_{d(on)}$				21		ns
$t_r$	$V_{DD}=50V$	$I_D=60A$	$R_G=1 \Omega$	10		ns
$t_{d(off)}$				74		ns
$t_f$				16		ns

## Typical Electrical and Thermal Characteristics (Curves)

