

## Descriptions

This 100V 59A N-Channel MOSFET in a TO-220 Plastic Package.

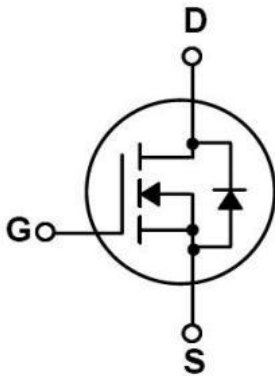
## Features

- Low On-Resistance
- Fast switching

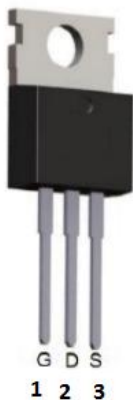
## Applications

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies

## Equivalent Circuit



## Pinning



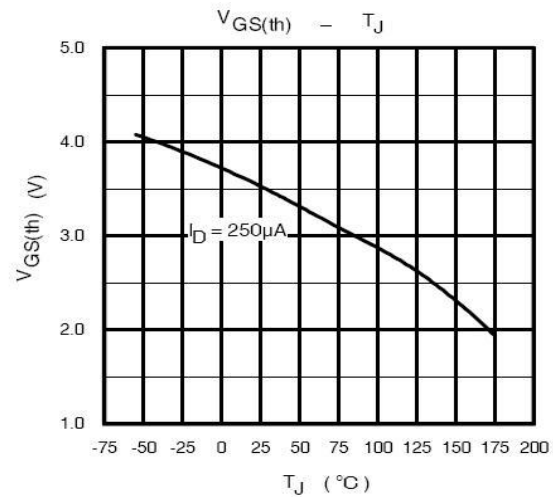
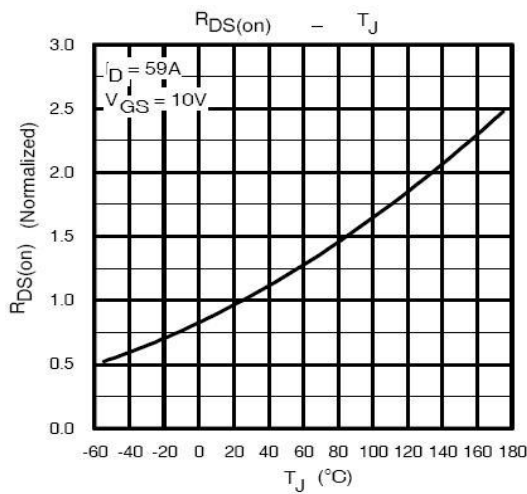
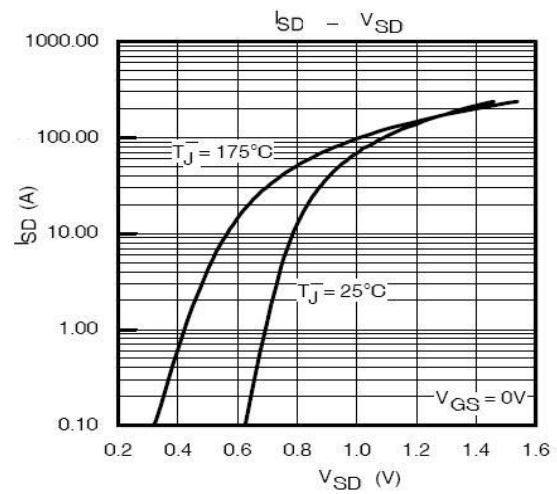
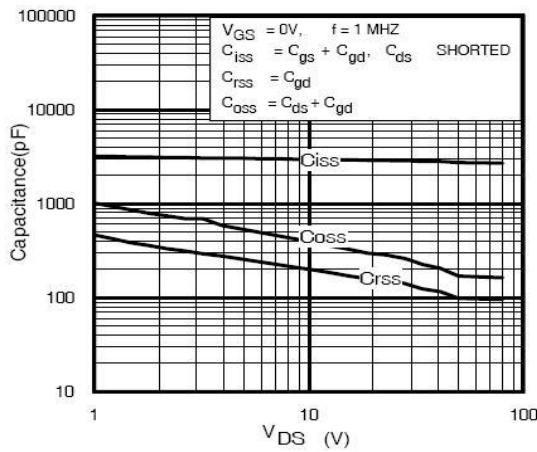
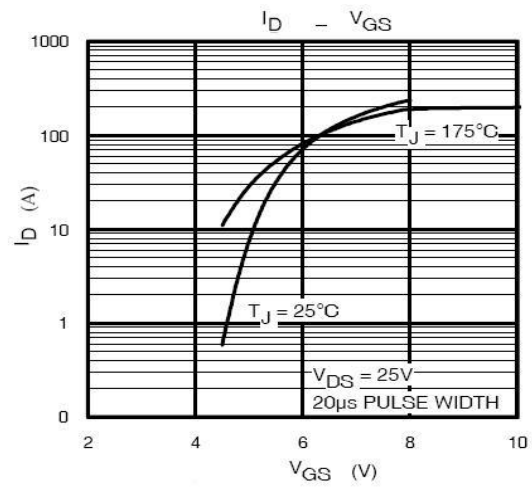
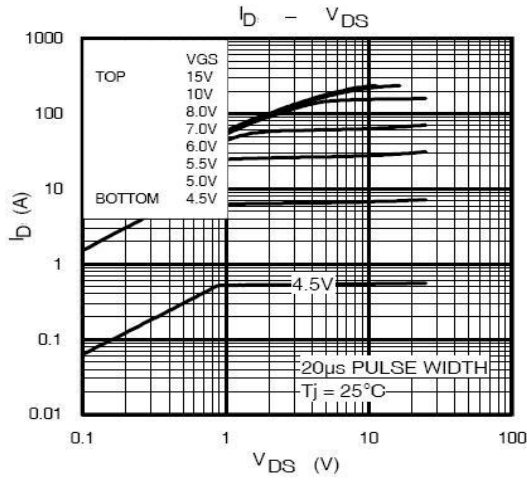
## Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	100	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	59	A
	$I_D(T_C=100^\circ\text{C})$	42	A
Pulsed Drain Current	$I_{DM}$	240	A
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Avalanche Current	$I_{AR}$	15	A
Single Pulsed Avalanche Energy	$E_{AS}$	170	mJ
Total Power Dissipation	$P_D(T_C=25^\circ\text{C})$	160	W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	°C
Junction-to-Ambient	$R_{\theta JA}$	40	°C/W

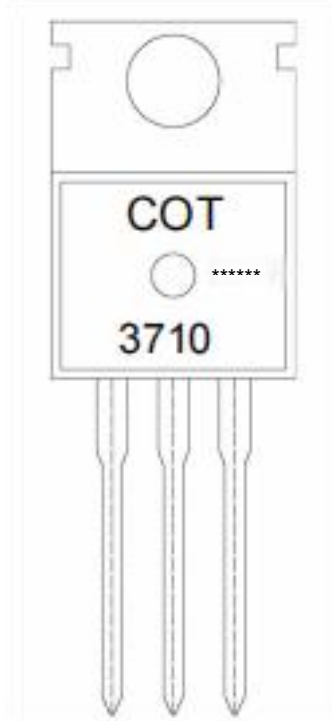
## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	100			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=100V$ $V_{GS}=0V$			20	$\mu A$
		$V_{DS}=100V$ $V_{GS}=0V$ $T_J=125^\circ\text{C}$			250	$\mu A$
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 0.2$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=35A$		14	18	m $\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=50V$ $I_D=35A$	35			S
Forward On Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=35A$ $T_J=25^\circ\text{C}$			1.3	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1\text{MHz}$		2900		pF
Output Capacitance	$C_{oss}$			290		
Reverse Transfer Capacitance	$C_{rss}$			150		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=50V$ $I_D=35A$ $R_G=6.8\Omega$		17		ns
Turn-On Rise Time	$t_r$			77		
Turn-Off Delay Time	$t_{d(off)}$			41		
Turn-Off Fall Time	$t_f$			56		

Electrical Characteristic Curve



**Marking Instructions**



Note:

COT: Company Logo.

3710: Product Type.

\*\*\*\*\*: Lot No. Code, code change with Lot No.

**Packaging SPEC**

**BULK AND TUBE INFOMATIONS**

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

Package Outline Dimensions

TO-220

单位: mm

