

Descriptions

This 100V,59A N-Channel MOSFET in a TO-263 Plastic Package.

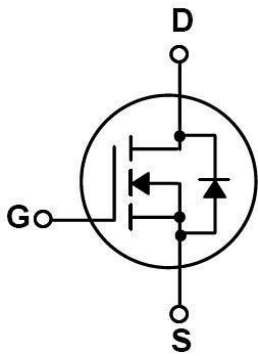
Features

- 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



Pin1:Gate

Pin2:Drain

Pin3:Source

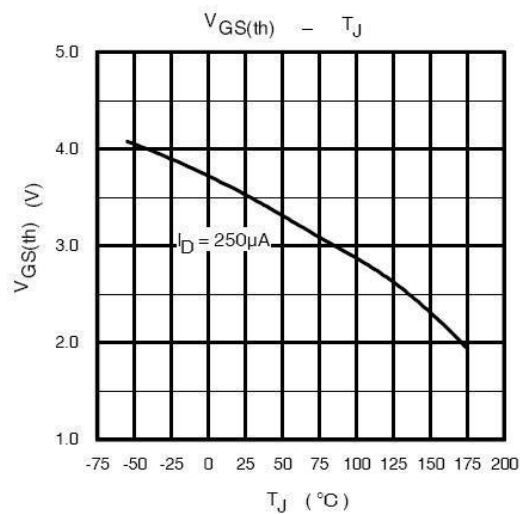
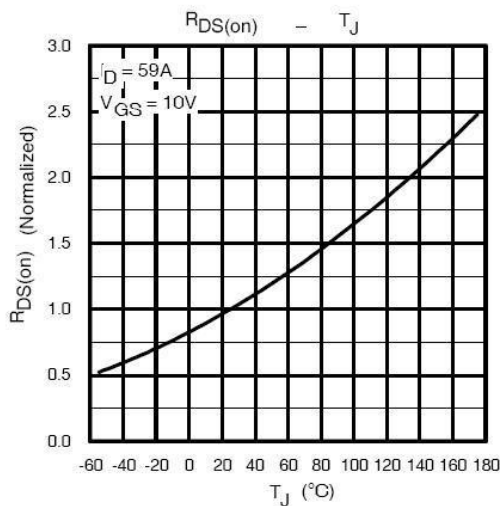
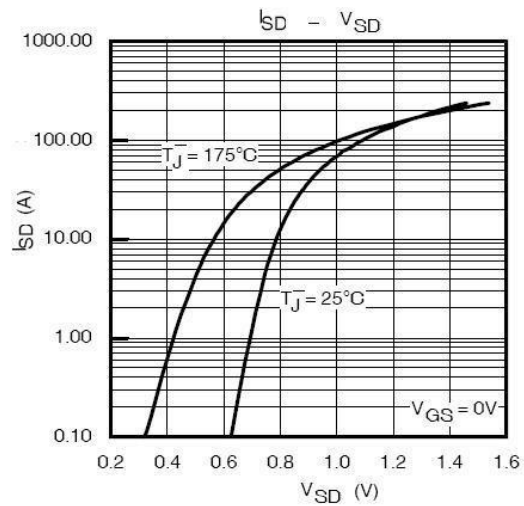
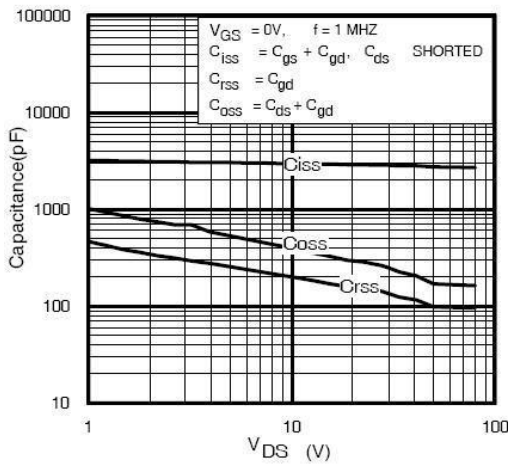
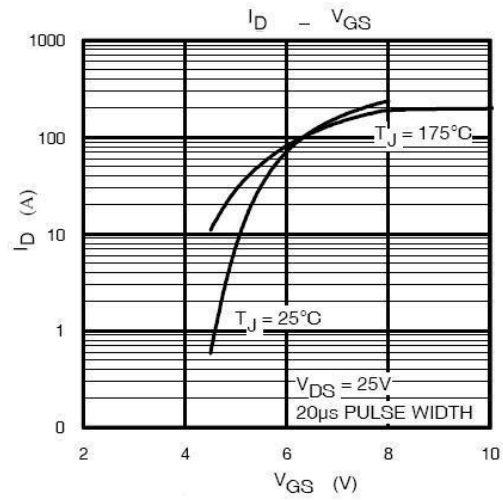
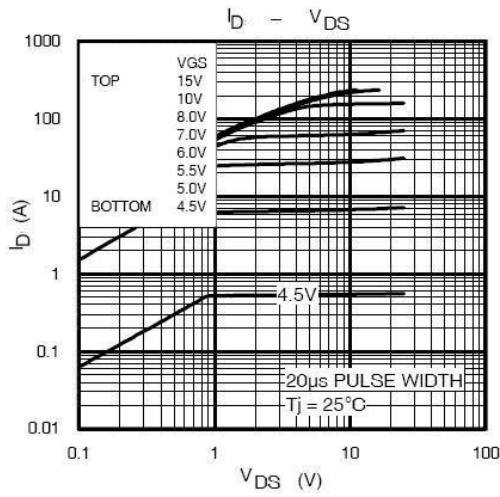
Absolute Maximum Ratings(Ta=25°C)

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

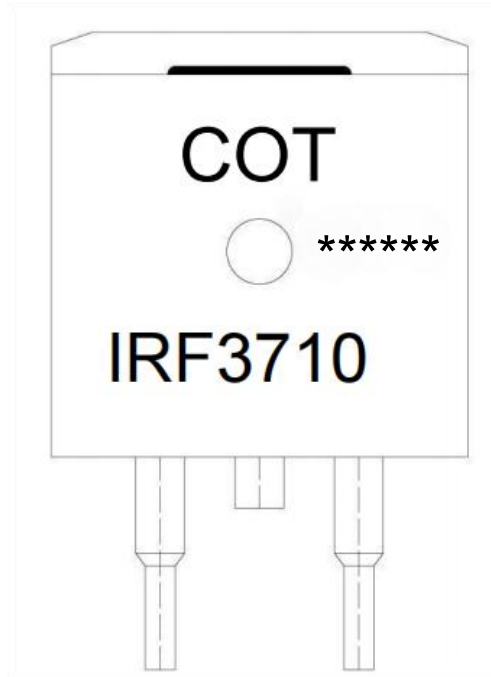
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	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	μA
		$V_{DS}=100V$ $V_{GS}=0V$ $T_J=125^\circ\text{C}$			250	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.2	μA
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 Ω
Forward Transconductance	g_{FS}	$V_{DS}=50V$ $I_D=35A$	35			S
Drain-Source Diode Forward 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
 IRF3710: Product Type.
 *****: Lot No. Code, code change with Lot No.

Packaging SPEC

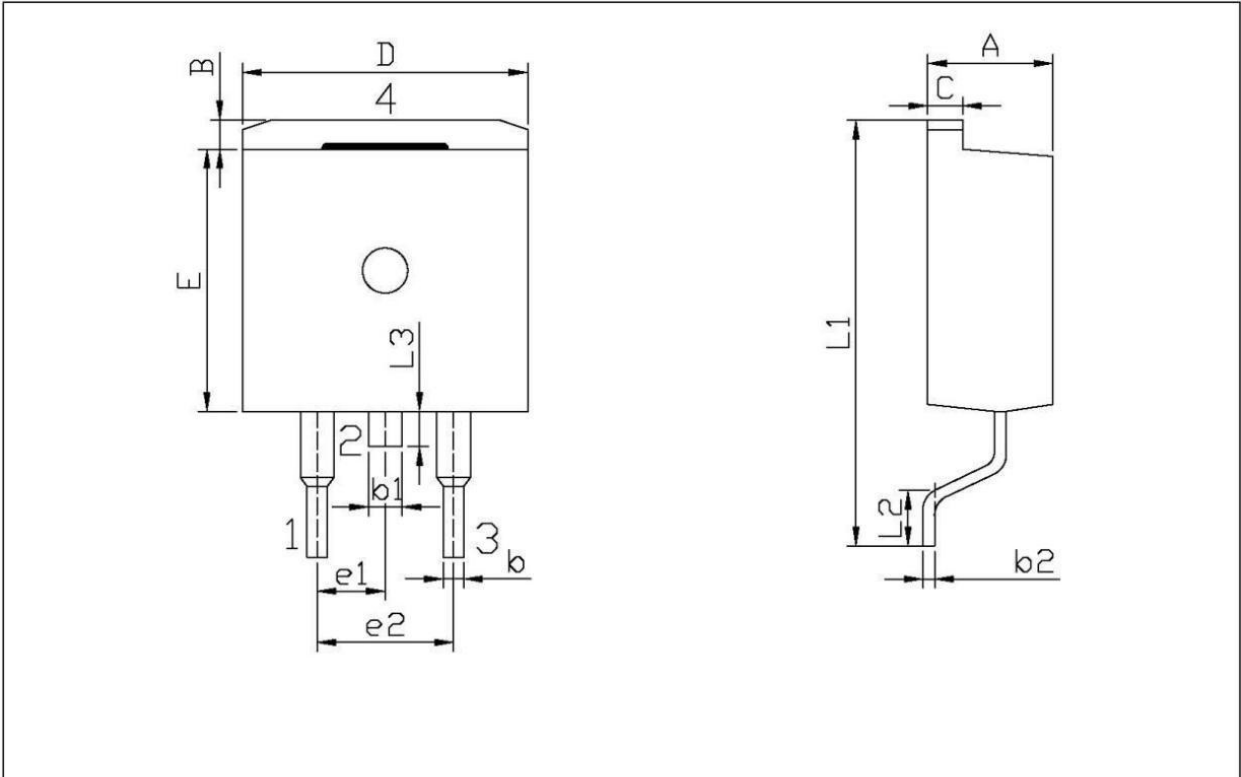
REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TO-263	800	1	800	5	4,000	13" ×24	360×360×50	385×257×392

TUBE INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-263	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

Package Outline Dimensions



单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.30	4.70	E	9.00	9.40
B	1.00	1.40	e1	2.34	2.74
b	0.70	0.90	e2	4.88	5.28
b1	1.15	1.35	L1	15.00	16.00
b2	0.40	0.60	L2	2.24	2.84
C	1.20	1.40	L3	1.20	1.60
D	9.80	10.20			

TO-263