

Descriptions

These N-channel MOSFET are produced using advanced plane MOSFET Technology, which provides Low on-state resistance, high switching performance and excellent quality. These devices are suitable device for SMPS, high Speed switching and general purpose applications.

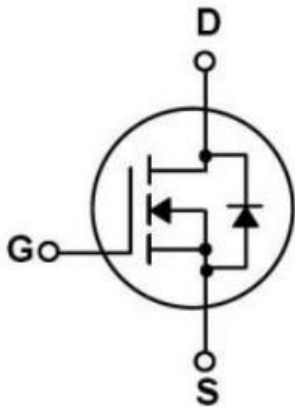
Features

- $V_{DS} = 650V$
- $I_D = 7.5A$ @ $V_{GS} = 10V$
- $R_{DS(ON)} (Typ) = 1.1 \Omega$ @ $V_{GS} = 10V$
- Low gate charge
- low c_{rss}
- fast switching

Applications

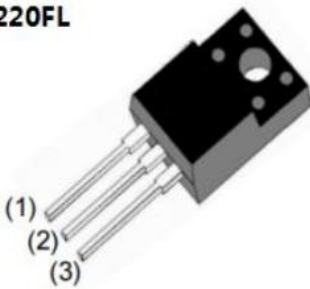
These devices are well suited for high efficiency switching DC/DC converters, and switch mode power supplies.

Equivalent Circuit



Pinning

TO-220FL



PIN1:Gate PIN 2:Drain PIN 3:Source

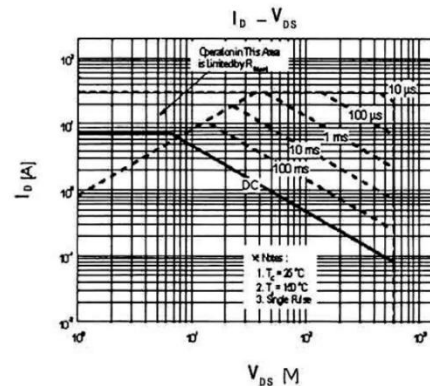
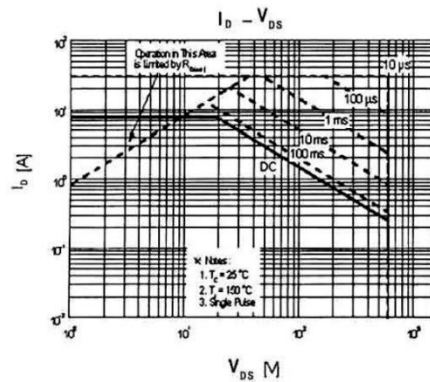
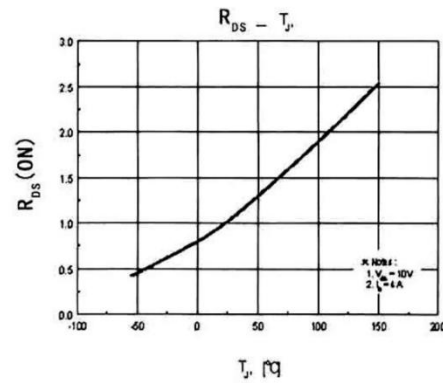
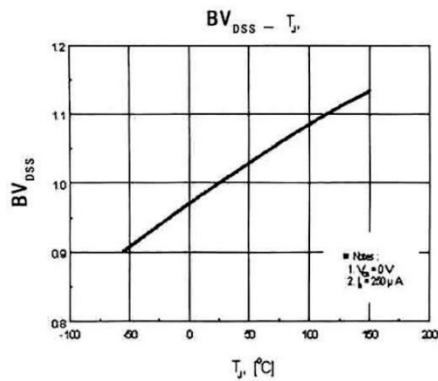
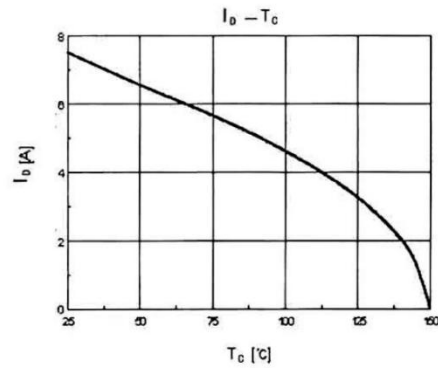
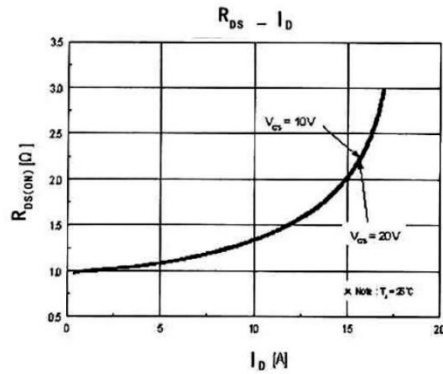
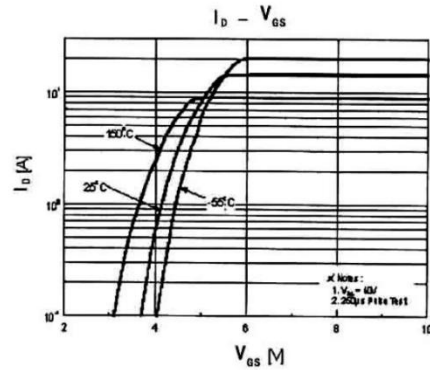
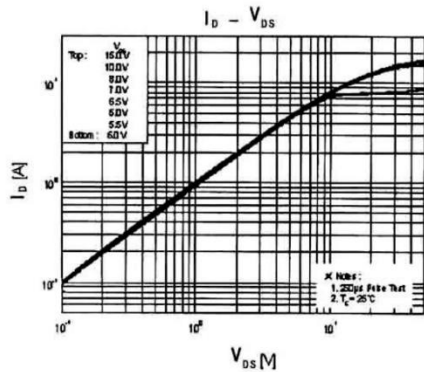
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_C=25^{\circ}\text{C})$	7.5	A
Drain Current	$I_D(T_C=100^{\circ}\text{C})$	4.6	A
Drain Current - Pulsed	I_{DM}	30	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	230	mJ
Repetitive Avalanche Energy	E_{AR}	10	mJ
Avalanche Current	I_{AR}	7.5	A
Power Dissipation	$P_D(T_C=25^{\circ}\text{C})$	48	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

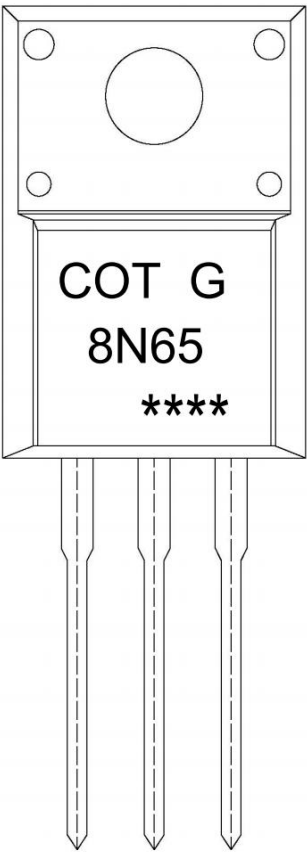
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	650			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=480V$ $T_C=125^{\circ}\text{C}$			10	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 0.1	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	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.75A$		1.1	1.3	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=3.75A$		8.7		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=7.5A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		965	1255	pF
Output Capacitance	C_{oss}			105	135	
Reverse Transfer Capacitance	C_{rss}			12	16	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=300V$ $I_D=7.5A$ $R_G=25\Omega$		16.5	45	ns
Turn-On Rise Time	t_r			60.5	130	
Turn-Off Delay Time	$t_{d(off)}$			81	170	
Turn-Off Fall Time	t_f			64.5	140	

Electrical Characteristic Curve



Marking Instructions



Note:

COT: Company Logo

G: Halogen Free

8N65: Product Type.

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

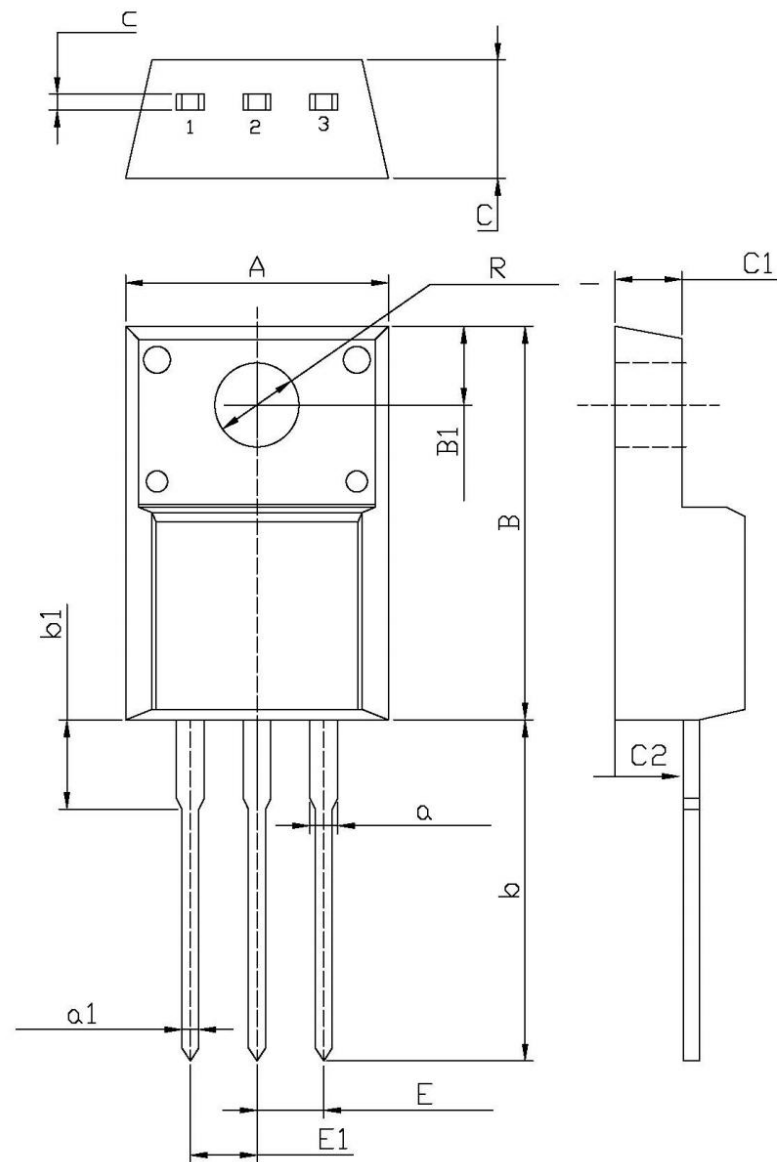
Packaging SPEC

TUBE

Package Type	Units					Dimension (unit: mm ³)		
	Units/Tub	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-220FL	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

Package Outline Dimensions

T0-220FL 单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
C	4.5	4.9	b1	2.90	3.90
c	0.4	0.6	a	1.08	1.48
A	9.96	10.36	a1	0.70	0.90
B	15.67	16.07	E	2.34	2.74
B1	3.30	3.50	E1	2.34	2.74
R	3.08	3.28	C1	2.34	2.74
b	12.48	13.48	C2	2.56	2.96