

Descriptions

This 80V,100A N-Channel MOSFET in a TO-220 Plastic Package.

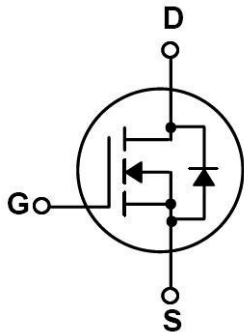
Features

- Low gate charge
- Low crss
- Fast switching
- Halogen-free Product

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

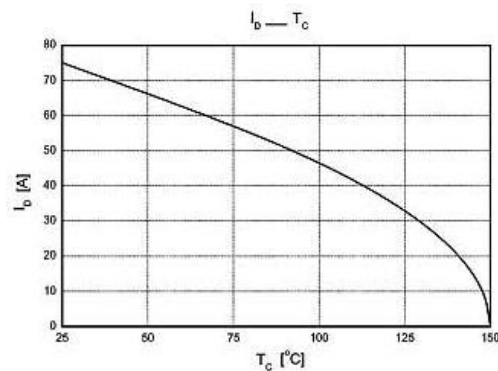
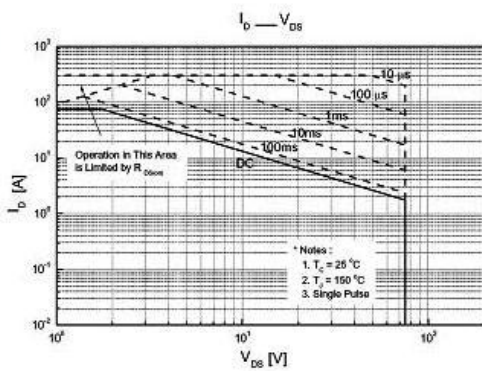
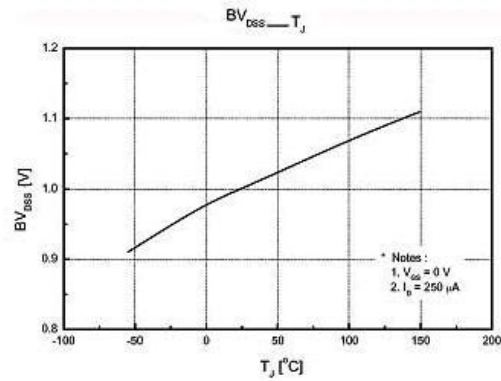
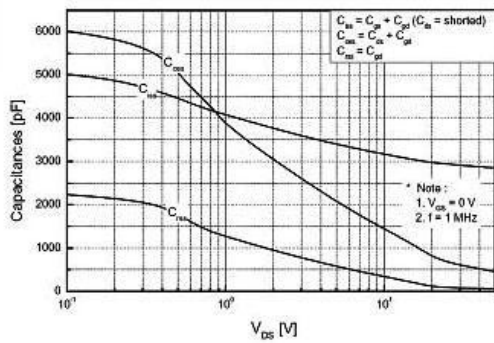
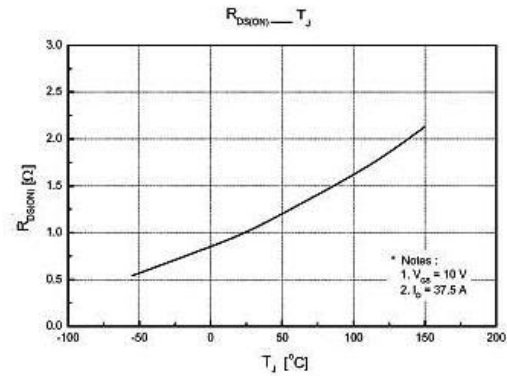
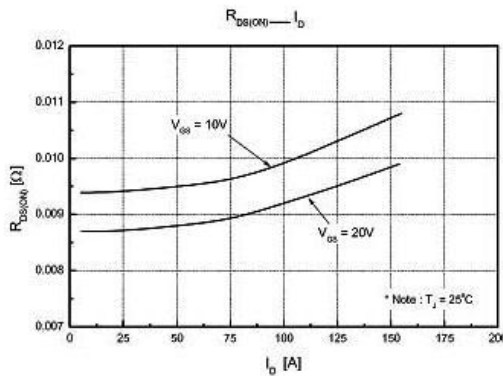
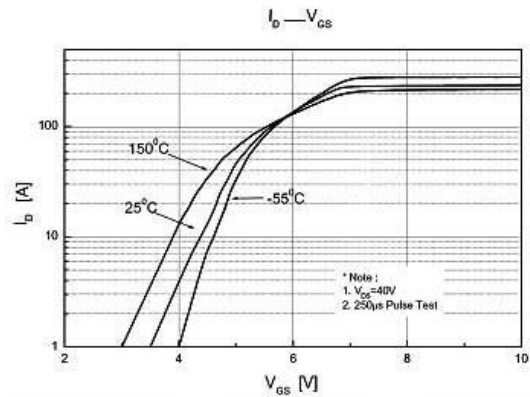
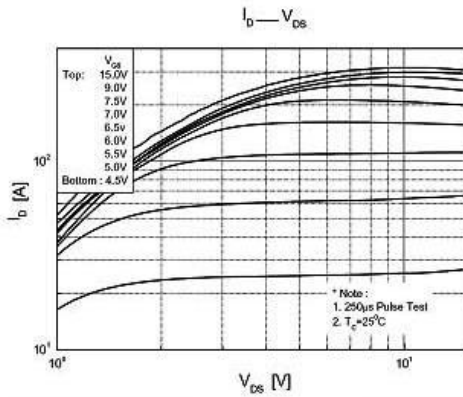
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	80	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	100	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	72	A
Peak Drain Current	I_{DM}	320	A
Gate-Source Voltage	V_{GS}	± 20	V
Repetitive Avalanche Energy	E_{AS}	790	mJ
Repetitive Avalanche Energy	E_{AR}	13.1	mJ
Avalanche Current	I_{AR}	75	A
Total Power Dissipation	$P_D(T_C=25^\circ\text{C})$	165	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

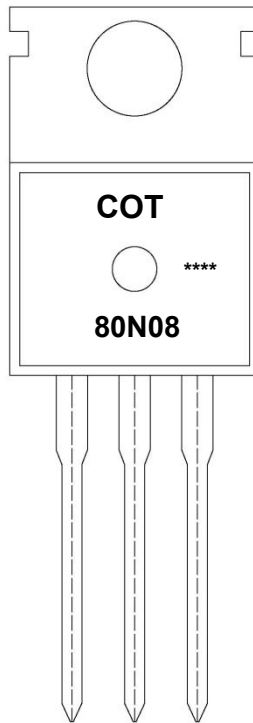
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	80			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=80V$ $V_{GS}=0V$			1	μA
		$V_{DS}=80V$ $V_{GS}=0V$ $T_C=125^\circ\text{C}$			10	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=40A$		6.5	8	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5V$ $I_D=30A$		58		S
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=40A$			1.3	V
Input Capacitance	C_{iss}	$V_{GS}=0V$ $f=1\text{MHz}$ $V_{DS}=25V$		320		pF
Output Capacitance	C_{oss}			330		pF
Reverse Transfer Capacitance	C_{rss}			260		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=30V$ $I_D=2A$ $R_L=25\Omega$ $R_G=25\Omega$ $V_{GS}=10V$		20		ns
Turn-On Rise Time	t_r			17.8		ns
Turn-Off Delay Time	$t_{d(off)}$			76.8		ns
Turn-Off Fall Time	t_f			15.7		ns
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=40A$			1.3	V
Reverse Recovery Time	t_{rr}	$I_S=40A$ $V_{GS}=0V$		48		ns
Reverse Recovery charge	Q_{rr}	$di/dt=100A/\mu s$		10		nC
				5		

Electrical Characteristic Curve



Marking Instructions



Note:

- COT: Company Code
- 80N08: Product Type.
- ****: Lot No. Code, code change with Lot No.

Packaging SPEC

BULK

Package Type	Units					Dimension (unit: mm ³)		
	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

TUBE

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-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

Package Outline Dimensions

T□-220

单位: mm

