

/ Descriptions

TO-220 N MOS N-CHANNEL MOSFET in a TO-220 Plastic Package.

/ Features

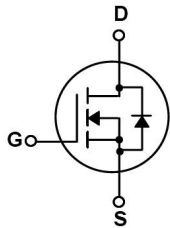
Low gate charge, low crss, fast switching.

/ Applications

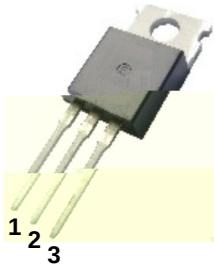
DC/DC

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

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

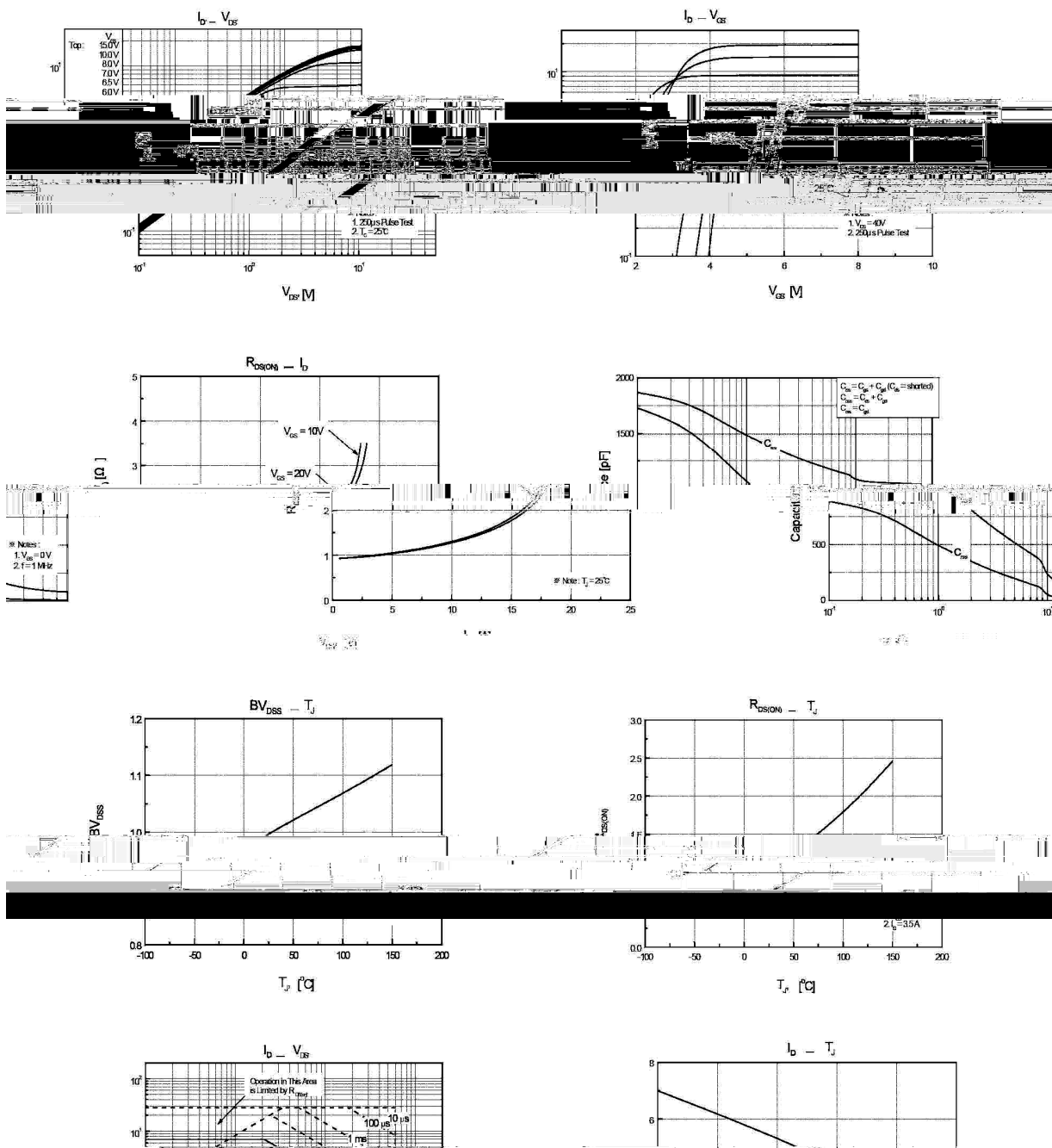
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	600	V
Drain Current	$I_D(T_C=25)$	7.0	A
Drain Current	$I_D(T_C=100)$	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GSS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	420	mJ
Repetitive Avalanche Energy	E_{AR}	14.7	mJ
Avalanche Current	I_{AR}	7.0	A
Power Dissipation	$P_D(T_C=25)$	147	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	

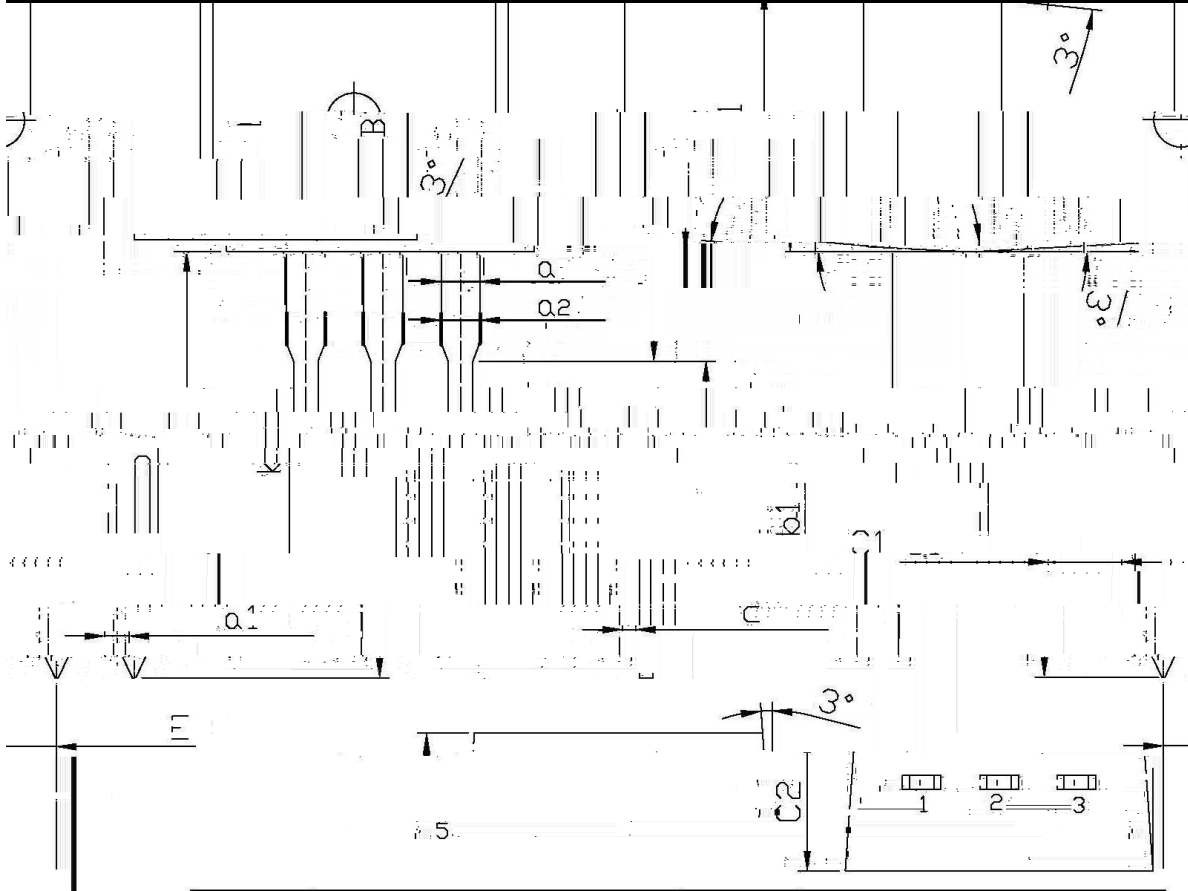
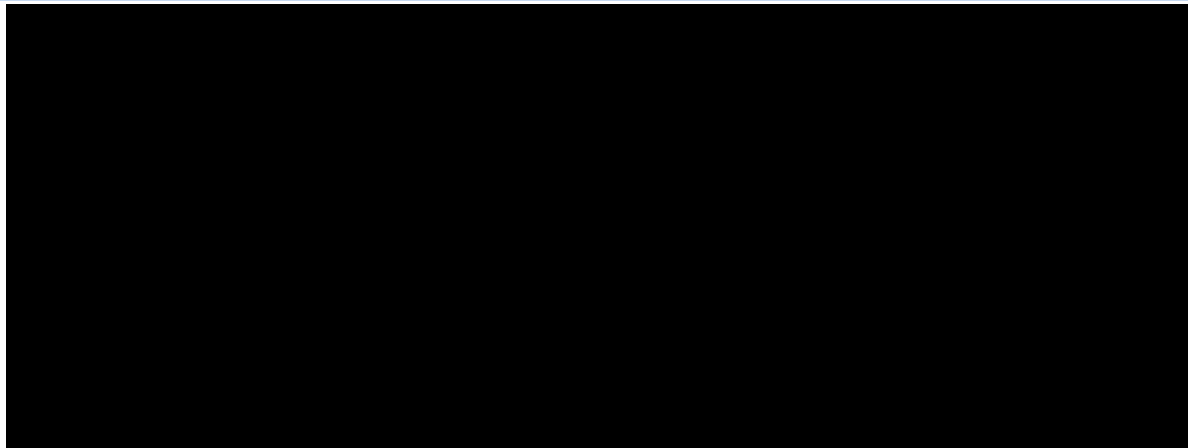
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	600			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=600V$ $V_{GS}=0V$			1	μA
		$V_{DS}=480V$ $T_C=125$			100	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
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	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$		1.0	1.2	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=3.5A$		8.2		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=7.0A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1100	1500	pF
Output Capacitance	C_{oss}			110	150	pF
Reverse Transfer Capacitance	C_{rss}			12	16	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=300V$ $I_D=7.0A$ $R_G=25\Omega$		15	40	ns
Turn-On Rise Time	t_r			30	70	ns
Turn-Off Delay Time	$t_{d(off)}$			110	230	ns
Turn-Off Fall Time	t_f			40	90	ns

/ Electrical Characteristic Curve

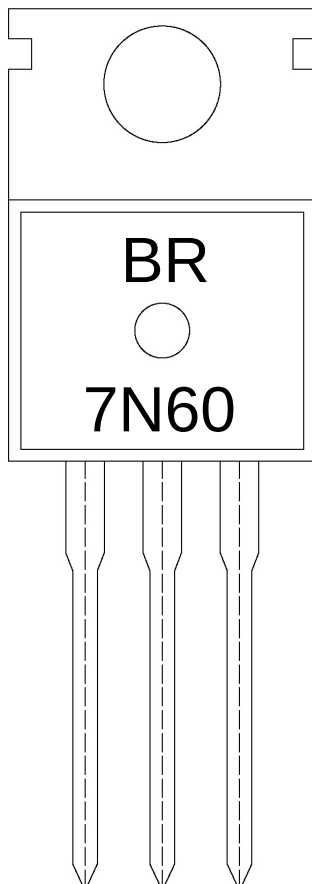


/ Package Dimensions



Dimensions in Millimeters				Dimensions in Millimeters			
Max	Symbol	Min	Symbol	Max	Symbol	Min	Symbol
14	Δ	9.8	Δ	10.2	C	1.2	C
9.7	a1	3.55	a1	3.8	B1	6.3	B1
9.4	a2	15.7	a2	16.1	b1	9.0	b1
2.6	b1	12.6	b1	13.6	c1	2.2	c1
0.9	b1	9.6	b1	10.6	a1	0.7	a1
1.32	c	0.4	c	0.52	a	0.25	a
2.7/4	E	1.45	E	1.47	E	2.34	E
1.45	a2		a2		a2	1.25	a2

/ Marking Instructions



BR

7N60

Note:

BR: Company Code

7N60: Product Type.

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

