

**/ Descriptions**

TO-251          N      MOS          N-CHANNEL MOSFET in a TO-251 Plastic Package.

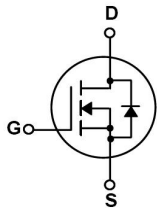
**/ Features**

#          #  
Low gate charge, low crss, fast switching.

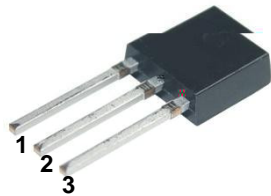
**/ Applications**

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<sub>FE</sub> Classifications & Marking**

See Marking Instructions.

**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	650	V
Drain Current	$I_D(T_C=25)$	5.0	A
Drain Current	$I_D(T_C=100)$	2.6	A
Drain Current - Pulsed	$I_{DM}$	18	A
Gate-Source Voltage	$V_{GSS}$	±30	V
Single Pulsed Avalanche Energy	$E_{AS}$	210	mJ
Repetitive Avalanche Energy	$E_{AR}$	10	mJ
Avalanche Current	$I_{AR}$	4.5	A
Power Dissipation	$P_D(T_C=25)$	54	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	

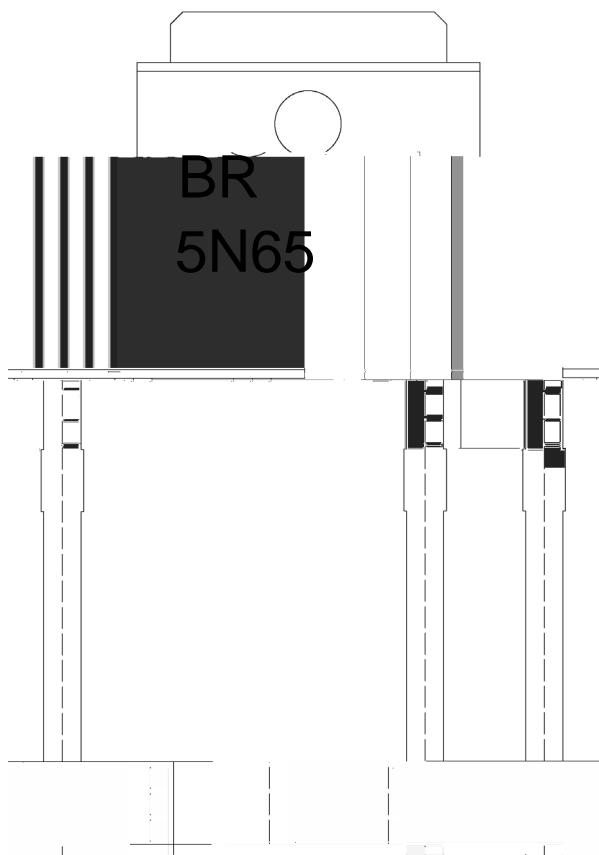
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250$ A	650			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=650V$ $V_{GS}=0V$			1.0	A
		$V_{DS}=480V$ $T_C=125$			10	A
Gate-Body Leakage Current, Forward	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250$ A	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=2.25A$		2.0	2.5	
Forward Transconductance	$g_{FS}$	$V_{DS}=40V$ $I_D=2.25A$		4.7		S
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=4.5A$			1.4	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		515	670	pF
Output Capacitance	$C_{oss}$			55	72	pF
Reverse Transfer Capacitance	$C_{rss}$			6.5	8.5	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=300V$ $I_D=4.5A$ $R_G=25$		10	30	ns
Turn-On Rise Time	$t_r$			42	90	ns
Turn-Off Delay Time	$t_{d(off)}$			38	85	ns
Turn-Off Fall Time	$t_f$			46	100	ns

/ **Electrical Characteristic Curve**

**BRI5N65**

/ Marking Instructions



BR

5N65

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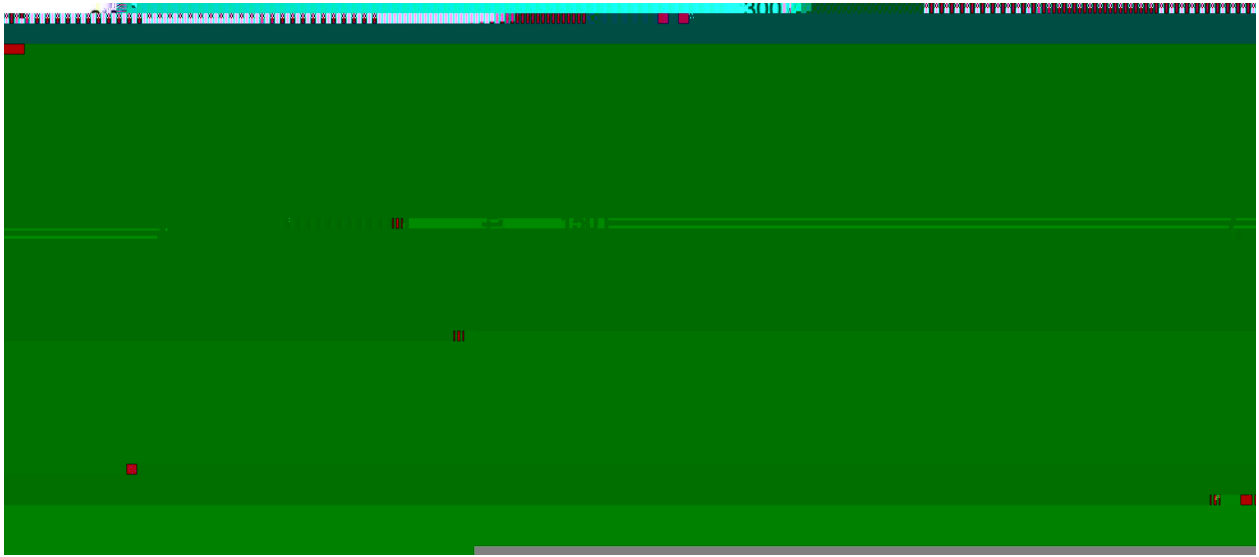
Note:

BR: Company Code

5N65: Product Type.

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

( ) / Temperature Profile for Dip Soldering(Pb-Free)



1	25	150	60	90sec;	Note:	1.Preheating:25~150 , Time:60~90sec.
2	255..5		5..0.5sec;		2.Peak Temp.:255..5 , Duration:5..0.5sec.	
3		2	10	/sec.	3. Cooling Speed: 2~10 /sec.	

/ Resistance to Soldering Heat Test Conditions

270..5	10..1 sec.	Temp.:270±5	Time:10±1 sec
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/ Packaging SPEC.

/ BULK

Package Typ