

/ Descriptions

TO-251 M M E N 3 MOS 6 5 Z 1 N-CHANNEL MOSFET in a TO-251 Plastic Package.

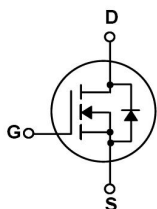
/ Features

High U_{GS}/U_{DS} ratio, low $r_{DS(on)}$, low Q_g , low C_{rss} , fast switching.

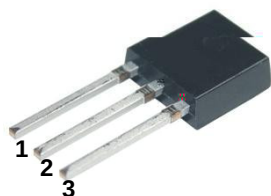
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 χ G

PIN 2 χ D

PIN 3 χ S

/ h_{FE} Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25 °C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	5.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	2.6	A
Drain Current - Pulsed	I_{DM}	18	A
Gate-Source Voltage	V_{GS}	± 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	$P_D(T_C=25^\circ\text{C})$	54	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	

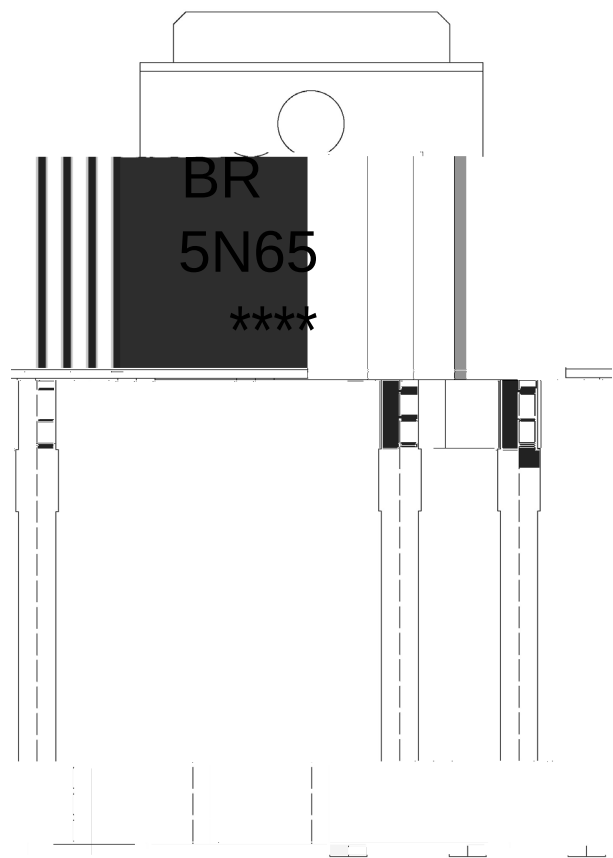
/ Electrical Characteristics(Ta=25 °C)

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	A
		$V_{DS}=480V, T_C=125^\circ\text{C}$			10	A
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$			± 0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	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	$t_{d(on)}$	$V_{DD}=300V, I_D=4.5A, R_G=25\Omega$		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

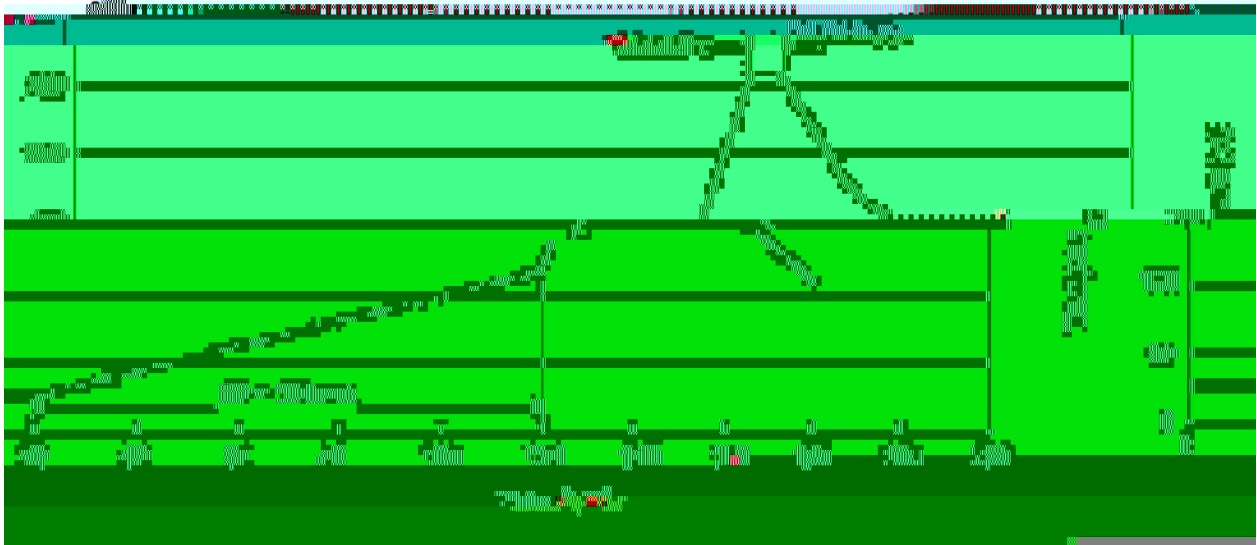
BRI5N65

/ Marking Instructions



公司代码	公司代码
BR	公司代码
5N65	产品型号
----	公司代码 产品型号 公司代码 产品型号
Note:	
BR:	Company Code
5N65:	Product Type.
****:	Lot No. Code, code change with Lot No.

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



б " X

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

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/ Resistance to Soldering Heat Test Conditions

□ °C 270 ± 5 °C, Time: 10 ± 1 sec. Temp.: 270 ± 5 °C Time: 10 ± 1 sec

/ Packaging SPEC.

“Q” T Y E / BULK

Package Typ