/ Descriptions

TO-251 ṂṂ Ŀ N ێ MOS ʃ ᾦ Ẕ ˥ N-CHANNEL MOSFET in a TO-251 Plastic Package.

/ Features

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Low gate charge, low crss, fast switching.

/ Applications

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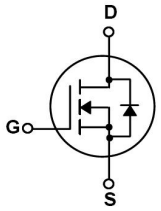
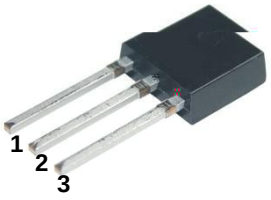
These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



PIN1 χ G PIN 2 χ D PIN 3 χ S

/ h_{FE} Classifications & Marking

ð ʍ ˥ ب ˝ See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

v ̈Ω Parameter	ϒ N Symbol	̈Ω Ö Rating	D Ч Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	I_D(Tc=25)	5.0	A
Drain Current	I_D(Tc=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(Tc=25)	54	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	

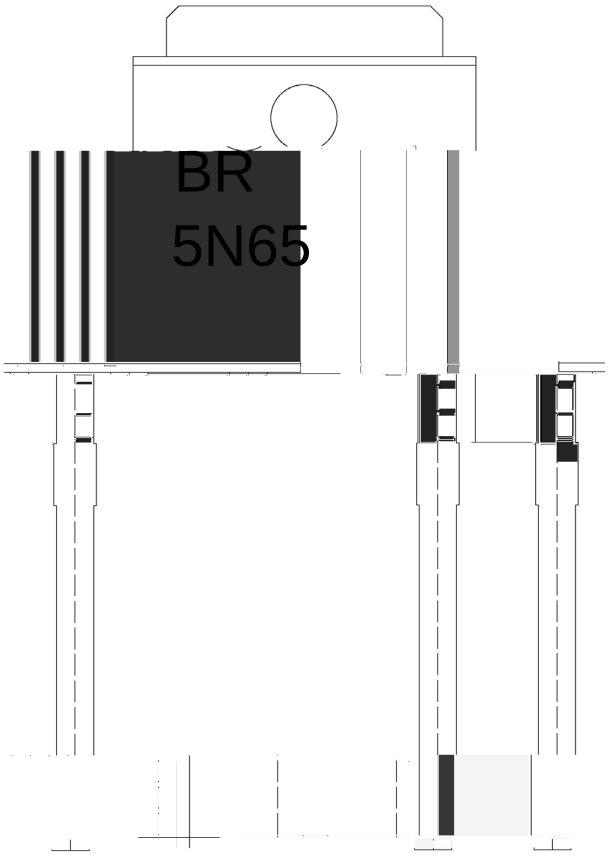
/ Electrical Characteristics(Ta=25)

v ̈Ω Parameter	ϒ N Symbol	╨ :╎ ϯ Test Conditions	ѡ ṇ Ö Min	Ɛ ȝ Ö Typ	ѡ ᶻ Ö Max	D Ч Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	650			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V V_{GS}=0V			1.0	μA
		V_{DS}=480V T_C=125			10	μA
Gate-Body Leakage Current, Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=2.25A		2.0	2.5	Ω
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=25Ω		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



ب ˝ χ

BR χ	ѭ ʒ ᴵ ᴵ
5N65 χ	ѭ ʒ ᴺ ᴵ
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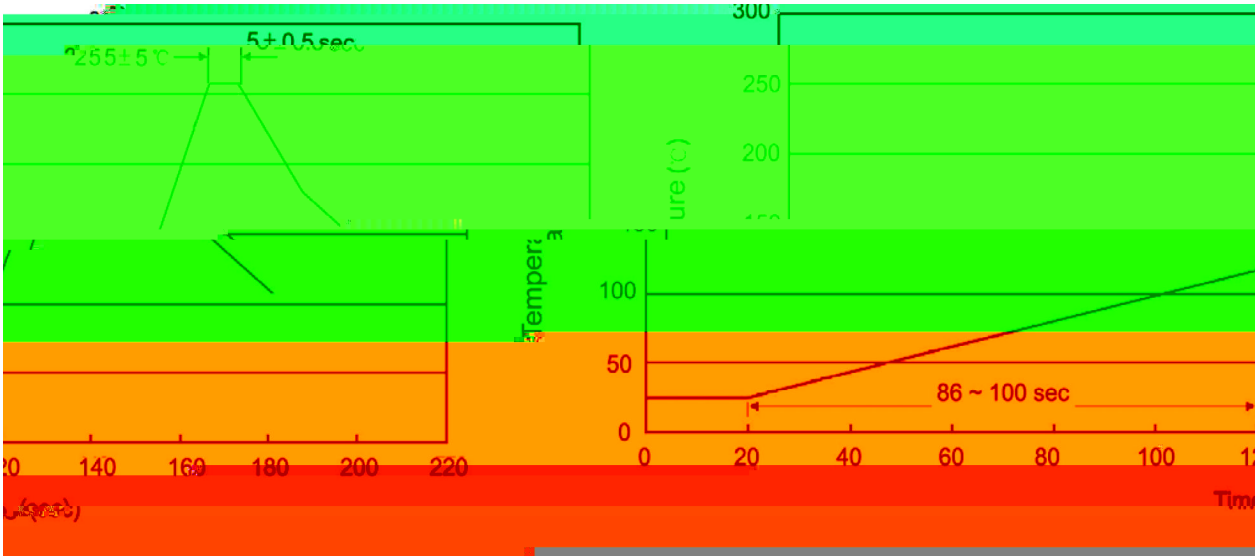
Note:

BR:	Company Code
5N65:	Product Type.
****:	Lot No. Code, code change with Lot No.

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



ب ˝ χ

1 ǂ ♬ □ ỷ 25 Ḱ 150 ɬ ı `H ڑ 60 Ḱ 90sec;

2 Š Ö □ ỷ 255 ° 5 ɬ ı `H ڑ ˋY ⺈ ⺮ 5 ° 0.5sec;

3 ì ˙ ⺈ ˛ ɔ ھ ỷ ⺮ 2 Ḱ 10 ɬ /sec.

Note:

1.Preheating:25~150 ɬ , Time:60~90sec.

2.Peak Temp.:255 ° 5 ɬ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɬ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 270 ° 5 ɬ `H ڑ χ 10 ° 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

ˋΩ ţ ɣ ŁŁ / BULK

Package Typ