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/ Descriptions

TO-220F N 650V

N-CHANNEL 650V Super-Junction Power MOSFET in a TO-220F Plastic Package.

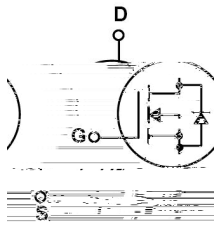
/ Features

 $R_{DS(on)} \times Q_g$ 100% ROHSVery low $R_{DS(on)} \times Q_g$, 100% avalanche tested, RoHS compliant.

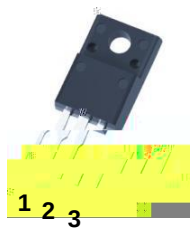
/ Applications

For switch mode power supply, uninterruptible power supply, power factor correction.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	$I_D(T_c=25^{\circ}C)$	14	A
Drain Current - Pulsed	I_{DM}	56	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	433	mJ
Avalanche Current	I_{AS}	10	A
Power Dissipation	$P_D(T_c=25^{\circ}C)$	30	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Junction-to-Case	$R_{\theta JC}$	4.2	$^{\circ}W$
Junction-to-Ambient	$R_{\theta JA}$	65	$^{\circ}W$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	650	700		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$ $T_J=25^{\circ}C$			1.0	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.5	3.3	4.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=5.5A$		235	280	m Ω

BRF65R280C

Rev.B May.-2022

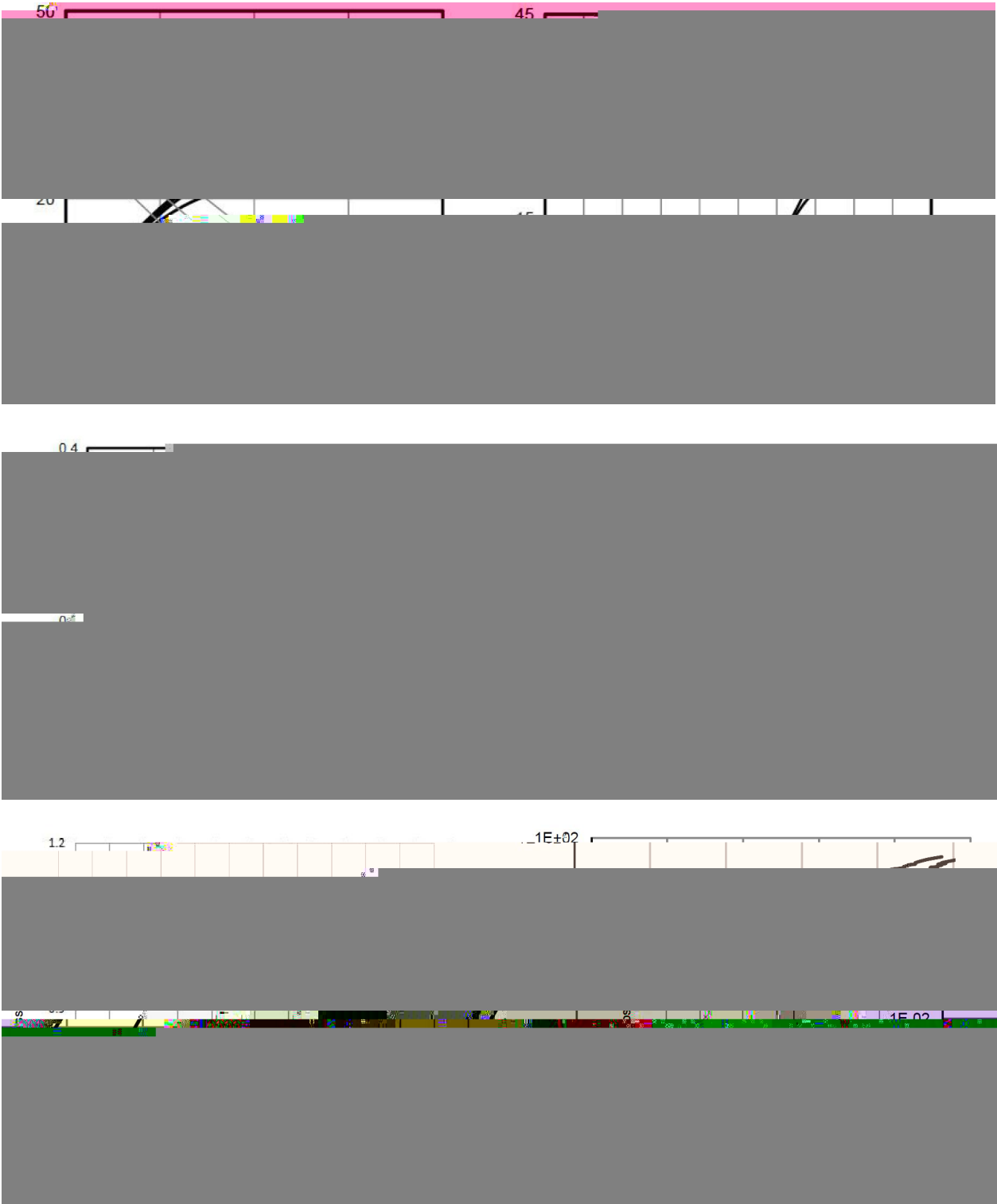


DATA SHEET

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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Continuous

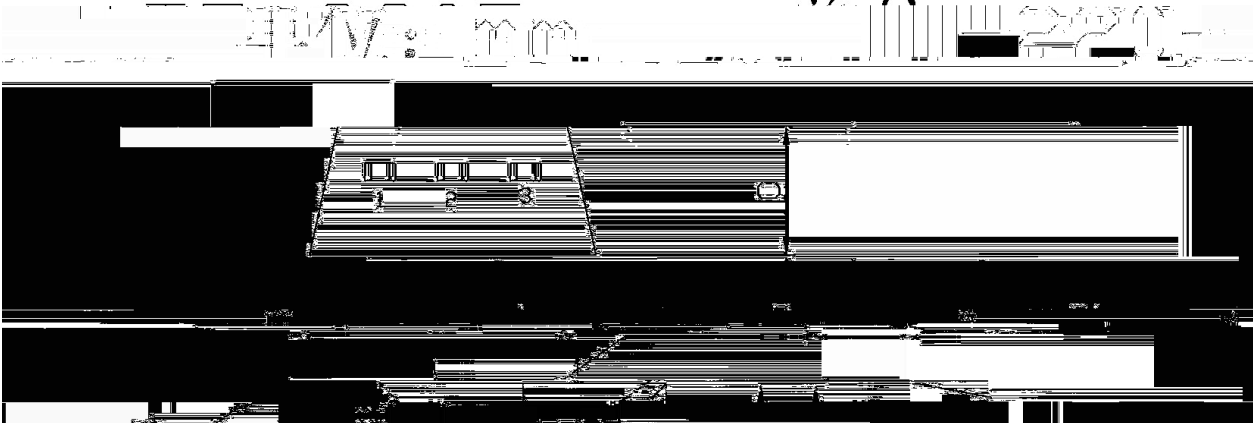
/ Electrical Characteristic Curve



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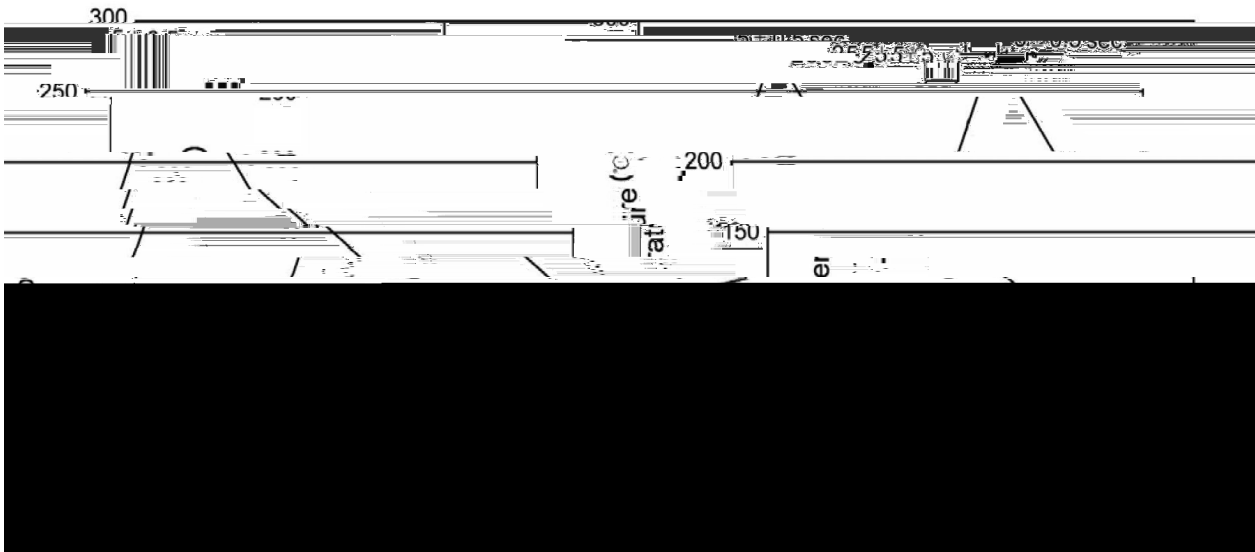
/ Package Dimensions



Dimensions in Millimeters				Dimensions in Inches			
Symbol	Min	Max	Symbol	Min	Max	Symbol	Min
A	1.27	1.27	A	0.050	0.050	A	0.050
B	1.27	1.27	B	0.050	0.050	B	0.050
C	1.27	1.27	C	0.050	0.050	C	0.050
D	1.27	1.27	D	0.050	0.050	D	0.050
E	1.27	1.27	E	0.050	0.050	E	0.050
F	1.27	1.27	F	0.050	0.050	F	0.050
G	1.27	1.27	G	0.050	0.050	G	0.050
H	1.27	1.27	H	0.050	0.050	H	0.050
I	1.27	1.27	I	0.050	0.050	I	0.050
J	1.27	1.27	J	0.050	0.050	J	0.050
K	1.27	1.27	K	0.050	0.050	K	0.050
L	1.27	1.27	L	0.050	0.050	L	0.050
M	1.27	1.27	M	0.050	0.050	M	0.050
N	1.27	1.27	N	0.050	0.050	N	0.050
O	1.27	1.27	O	0.050	0.050	O	0.050
P	1.27	1.27	P	0.050	0.050	P	0.050
Q	1.27	1.27	Q	0.050	0.050	Q	0.050
R	1.27	1.27	R	0.050	0.050	R	0.050
S	1.27	1.27	S	0.050	0.050	S	0.050
T	1.27	1.27	T	0.050	0.050	T	0.050
U	1.27	1.27	U	0.050	0.050	U	0.050
V	1.27	1.27	V	0.050	0.050	V	0.050
W	1.27	1.27	W	0.050	0.050	W	0.050
X	1.27	1.27	X	0.050	0.050	X	0.050
Y	1.27	1.27	Y	0.050	0.050	Y	0.050
Z	1.27	1.27	Z	0.050	0.050	Z	0.050

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

R



Note:			
1	25	150	60 90sec;
2	255±5		5±0.5sec;
3		2	10°C/sec.

/ Resistance to Soldering Heat Test Conditions

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

/ BULK

Package Type 封装形式	Units 包装数量	Dimension 包装尺寸 (unit: mm ³)	±
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