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BRF65R280C

Rev.B May.-2022



DATA SHEET

/ Descriptions

TO-220F N 650V

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

/ Features

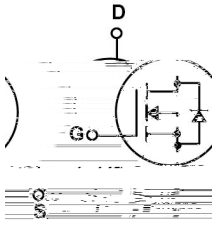
$R_{DS(on)} \times Q_g$ 100% ROHS

Very 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.

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Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	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	$P_D(T_C=25^\circ\text{C})$	30	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Junction-to-Case	R_{JC}	4.2	$^\circ\text{W}$
Junction-to-Ambient	R_{JA}	65	$^\circ\text{W}$

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}	$V_{DS}=650V$ $V_{GS}=0V$ $T_J=25^\circ\text{C}$			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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous						

/ Electrical Characteristic Curve

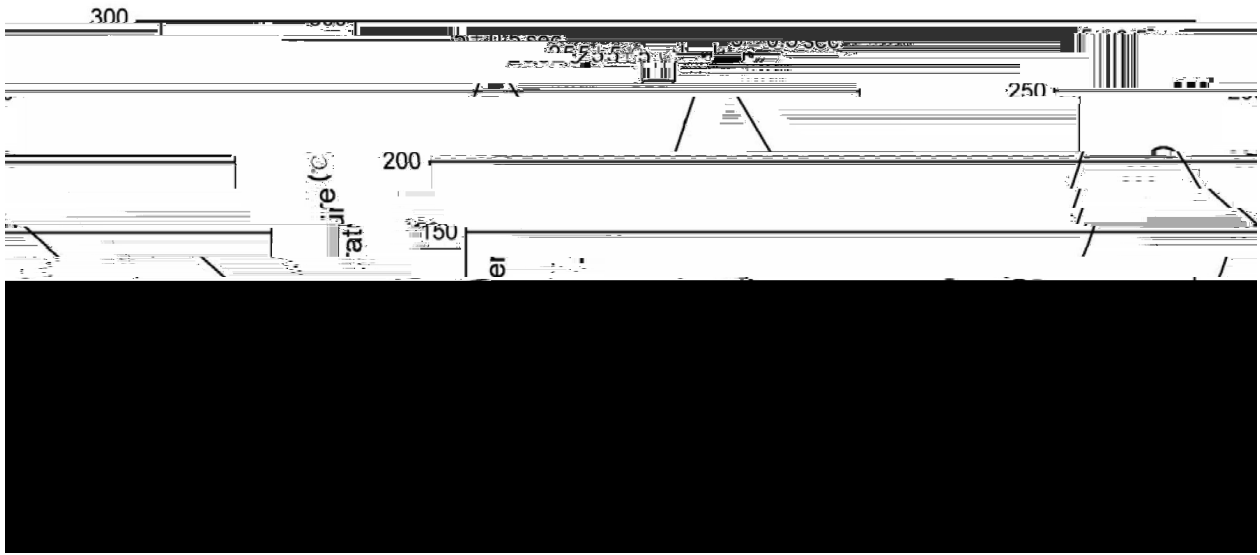


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() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|--------------------|------------------|-------|-----------|--|
| 1 | 25 | 150 ₀ | 60 | 90sec; | 1.Preheating:25~150°C, Time:60~90sec. |
| 2 | 255±5 ₀ | | 5±0.5 | sec; | 2.Peak Temp.:255±5°C, Duration:5±0.5sec. |
| 3 | | | 2 | 10°C/sec. | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ BULK

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