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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

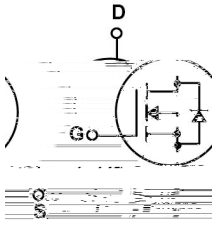
$R_{DS(on)} \times Q_g$  100%          ROHS

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.

符值

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	$V_{GS}$	$\pm 30$	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	$^\circ\text{C}/\text{W}$
Junction-to-Ambient	$R_{JA}$	65	$^\circ\text{C}/\text{W}$

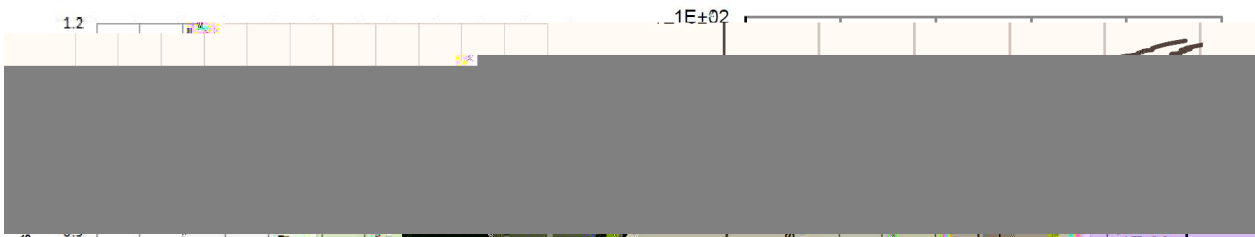
测符值

Parameter	Symbol	Test Conditions	Min			Typ		Max		Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu\text{A}$	650			700				V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=650V$ $T_J=25^\circ\text{C}$ $V_{GS}=0V$						1.0		$\mu\text{A}$
Gate-Body Leakage Current, Forward	$I_{GSS}$	$V_{GS}=\pm 30V$						$\pm 100$		nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	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

# 测符值

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous						

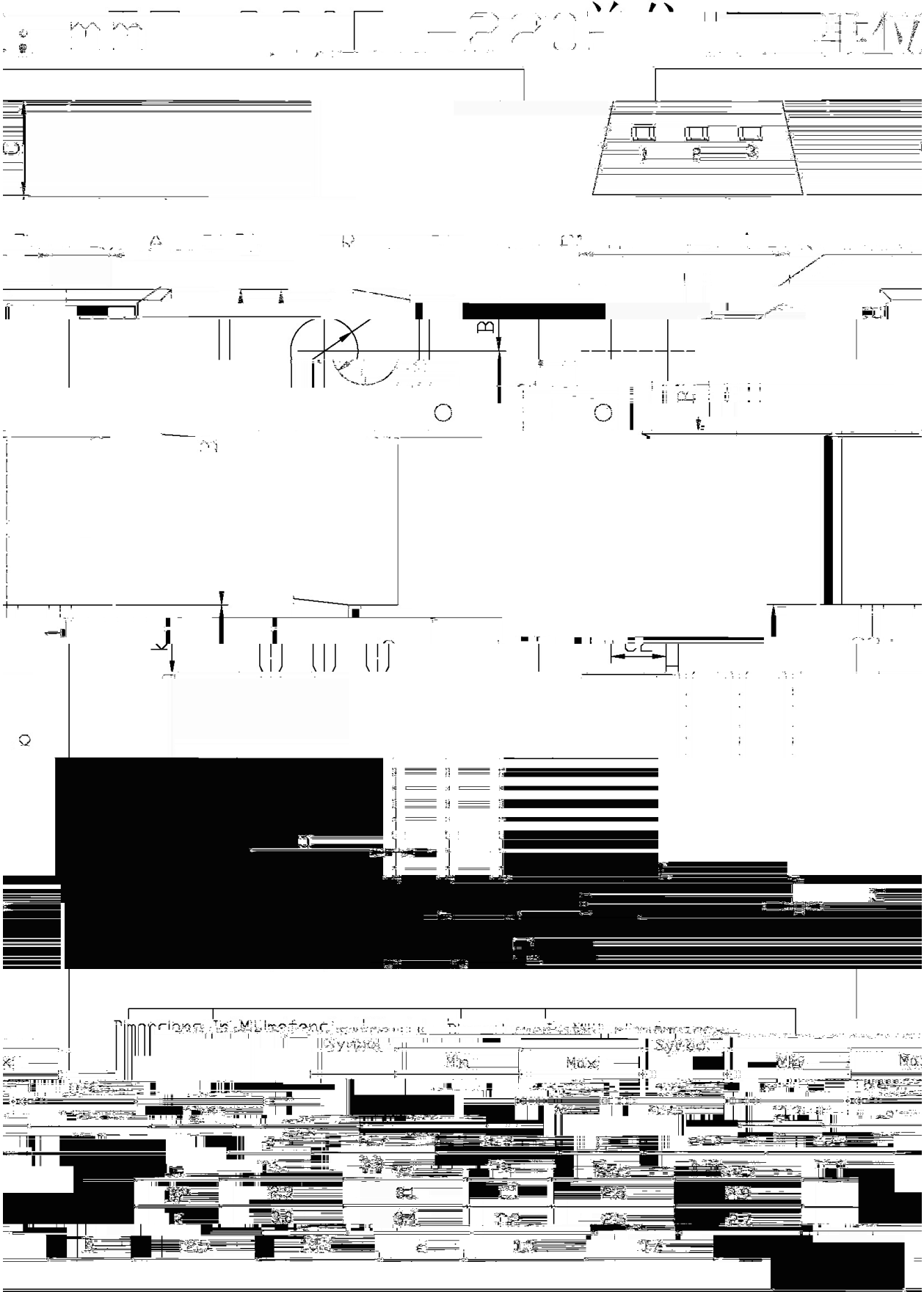
**/ Electrical Characteristic Curve**



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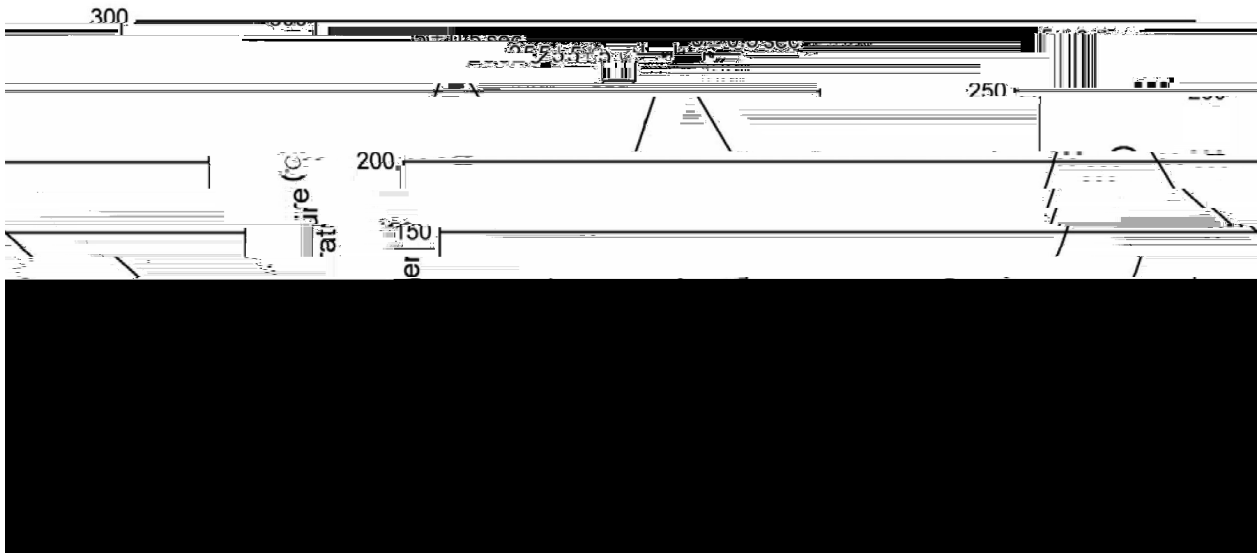
**/ Package Dimensions**







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



**Note:**

- |   |                    |                  |       |           |  |
|---|--------------------|------------------|-------|-----------|--|
| 1 | 25                 | 150 <sub>0</sub> | 60    | 90sec;    | 1.Preheating:25~150°C, Time:60~90sec.    |
| 2 | 255±5 <sub>0</sub> |                  | 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 <sup>3</sup> )