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A

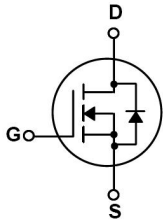
/ Descriptions

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	$I_D(T_C=25^{\circ}\text{C})$	11	A
Drain Current - Pulsed	I_{DM}	44	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	277	mJ
Avalanche Current	I_{AS}	8	A
Power Dissipation	$P_D(T_C=25^{\circ}\text{C})$	27	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Case	$R_{\theta JC}$	4.6	$^{\circ}\text{C/W}$
Junction-to-Ambient	$R_{\theta JA}$	65	$^{\circ}\text{C/W}$

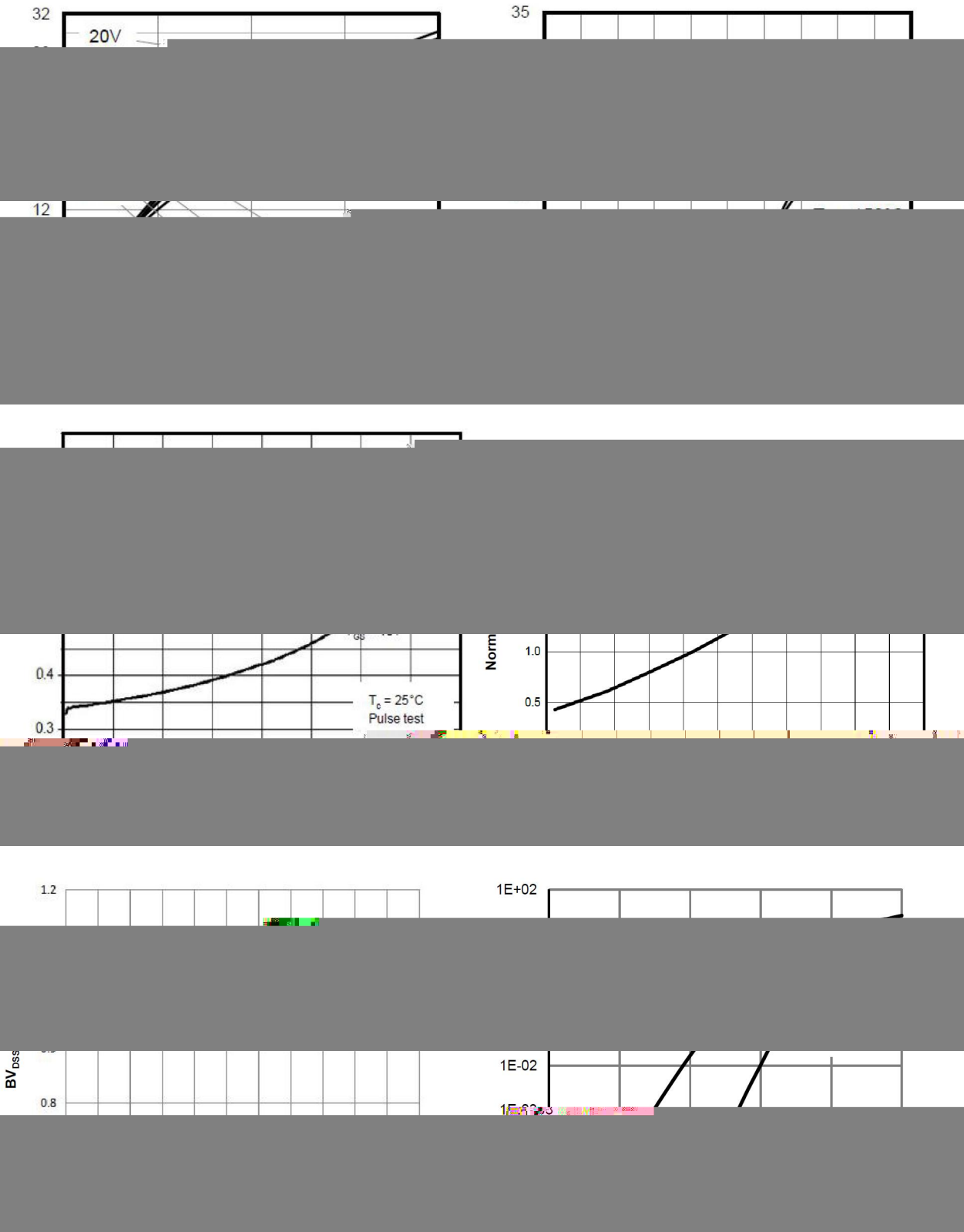
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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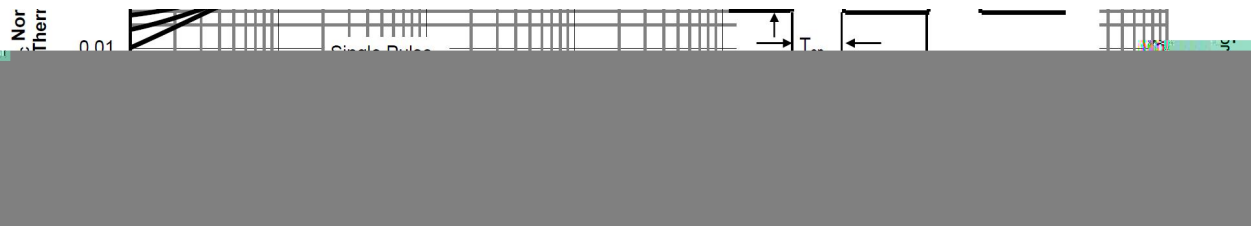
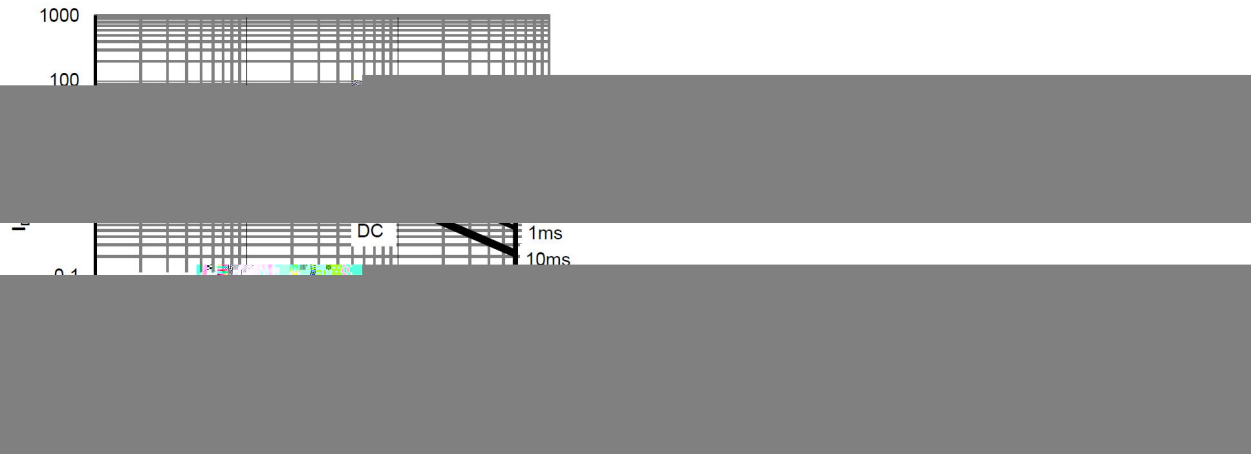
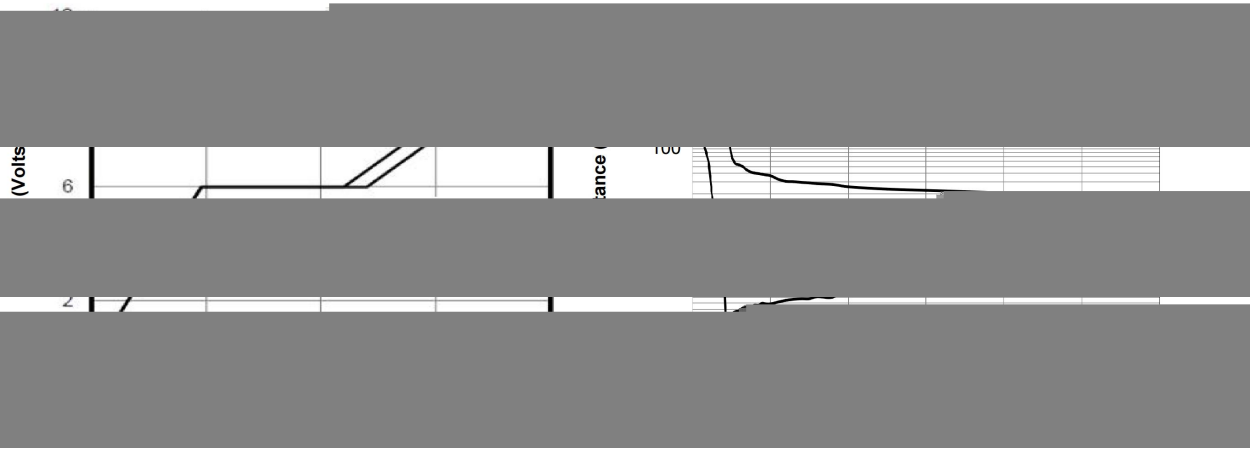
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Diode Forward Current	I_S				11	A
Total Gate Charge	Q_g	$V_{DS}=480V \quad I_D=5.5A$ $V_{GS}=10V$		19.2		nC
Gate-Source Charge	Q_{gs}			3.1		nC
Gate-Drain Charge	Q_{gd}			8.2		nC
Reverse recovery time	T_{rr}	$V_R=400V, I_F=5.5A,$ $dI_F/dt=100A/\mu s$		310		ns
Reverse recovery charge	Q_{rr}			2.8		uC

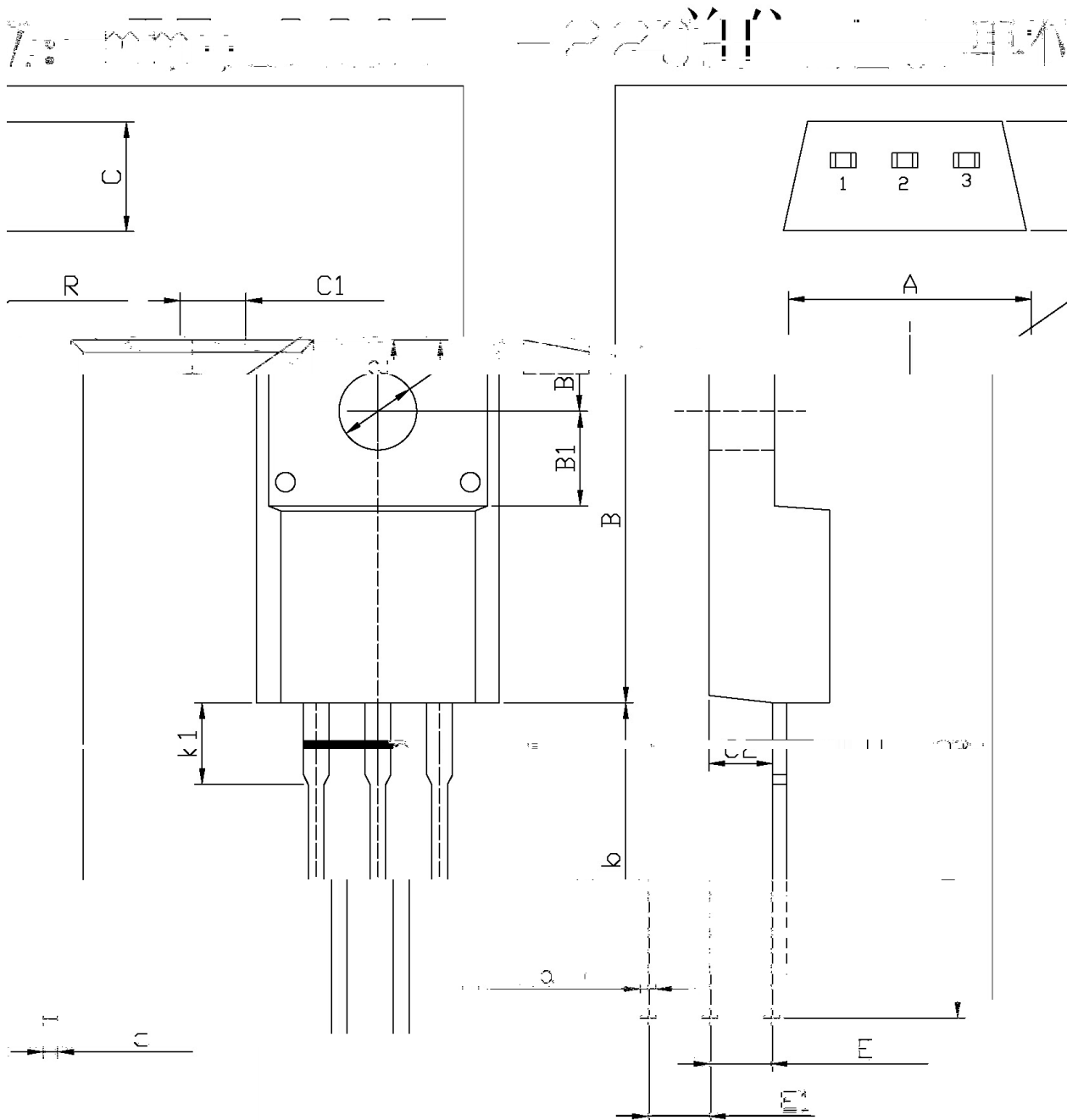
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

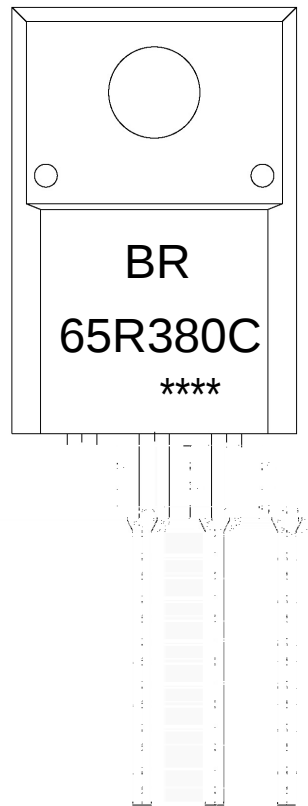


/ Package Dimensions



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	9.75	10.30	A1	0.55	0.75
B1	3.8	4.30	E1	2.29	2.79
B2	2.9	3.4	C1	2.5	2.9
R	3.0	3.4	C2	2.5	2.7
I	0.5	0.75			

/ Marking Instructions



BR

65R380C

Note:

BR: Company Code

65R380C: Product Type

****: Lot No. Code, code change with Lot No

BRF65R380C