

/ Revised record

/ Descriptions

TO-220 N

N-CHANNEL MOSFET in a TO-220 Plastic Package.

/ Features

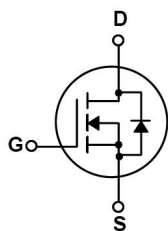
Ultra Low On-Resistance,fast switching.

/ Applications

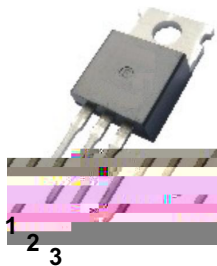
PFC

These devices are well suited for high efficient switched mode power supplies, Active power factor correction, electronic lamp ballast based on half bridge topology.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 4 D

PIN 3 S

/ h_{FE} Classifications & Marking

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See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	85	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	70	A
Pulsed Drain Current		I_{DM}	245	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy $L=0.5\text{mH}$		E_{AS}	238	mJ
Avalanche Current		I_{AS}	75	A
Total Power Dissipation		$P_D(T_c=25^\circ\text{C})$	139	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	15	$^\circ\text{C/W}$
Thermal Resistance-Junction to Ambient	Steady-State		60	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.9	

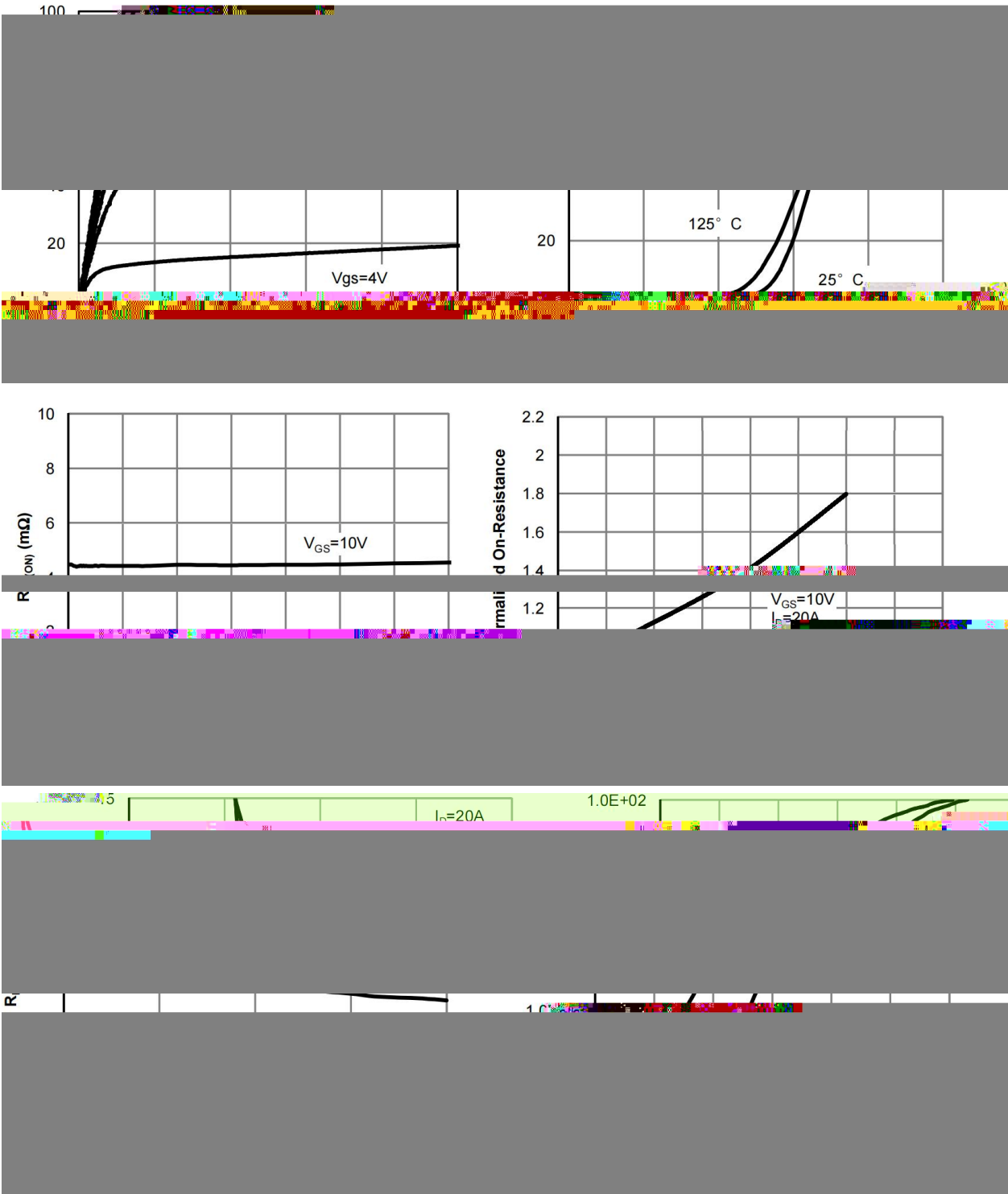
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	85			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=85\text{V}$ $V_{GS}=0\text{V}$			1	μA
		$T_J=125^\circ\text{C}$			5	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	2	3	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=70\text{A}$		4.5	5	$\text{m}\Omega$
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=40\text{V}$ $V_{GS}=0\text{V}$ $f=1\text{MHz}$		2900		pF
Output Capacitance	C_{oss}			750		
Reverse Transfer Capacitance	C_{rss}			15		

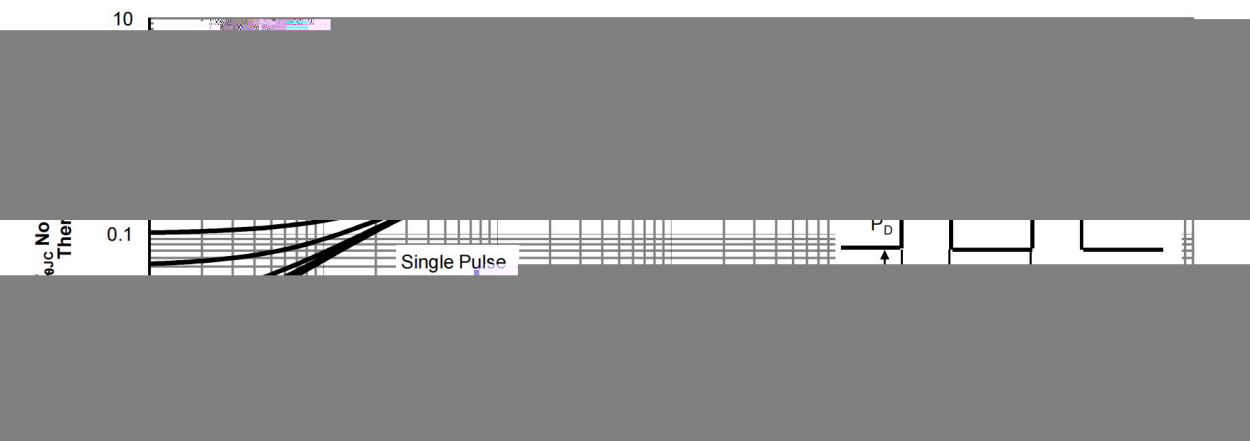
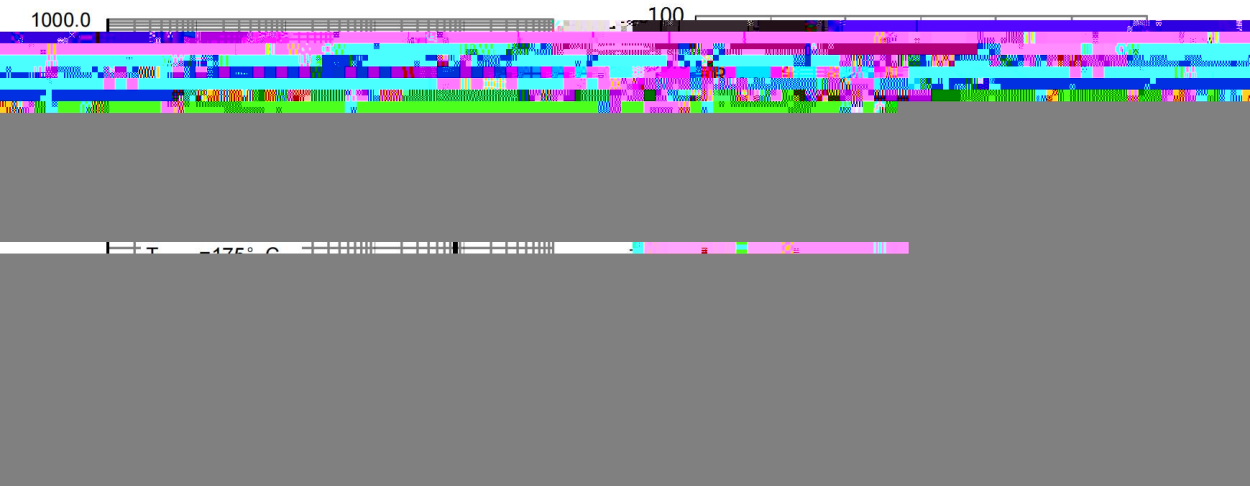
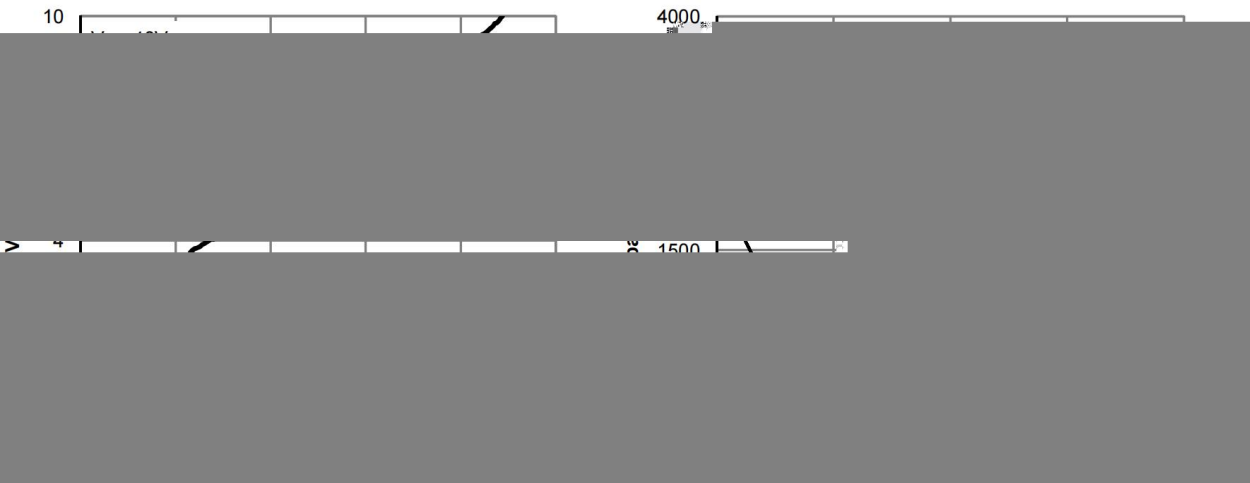
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate resistance	R_g	$f=1\text{MHz}$		1.6		Ω
Total Gate Charge	$Q_g(10\text{V})$	$V_{GS}=10\text{V}$ $V_{DS}=40\text{V}$ $I_D=20\text{A}$		44.5		nC
Gate Source Charge	Q_{gs}			12		
Gate Drain Charge	Q_{gd}			8		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10\text{V}$ $V_{DS}=40\text{V}$ $R_L=2\Omega$ $R_{GEN}=3\Omega$		13.5		ns
Turn-On Rise Time	t_r			11		
Turn-Off Delay Time	$t_{d(off)}$			32		
Turn-Off Fall Time	t_f			11		

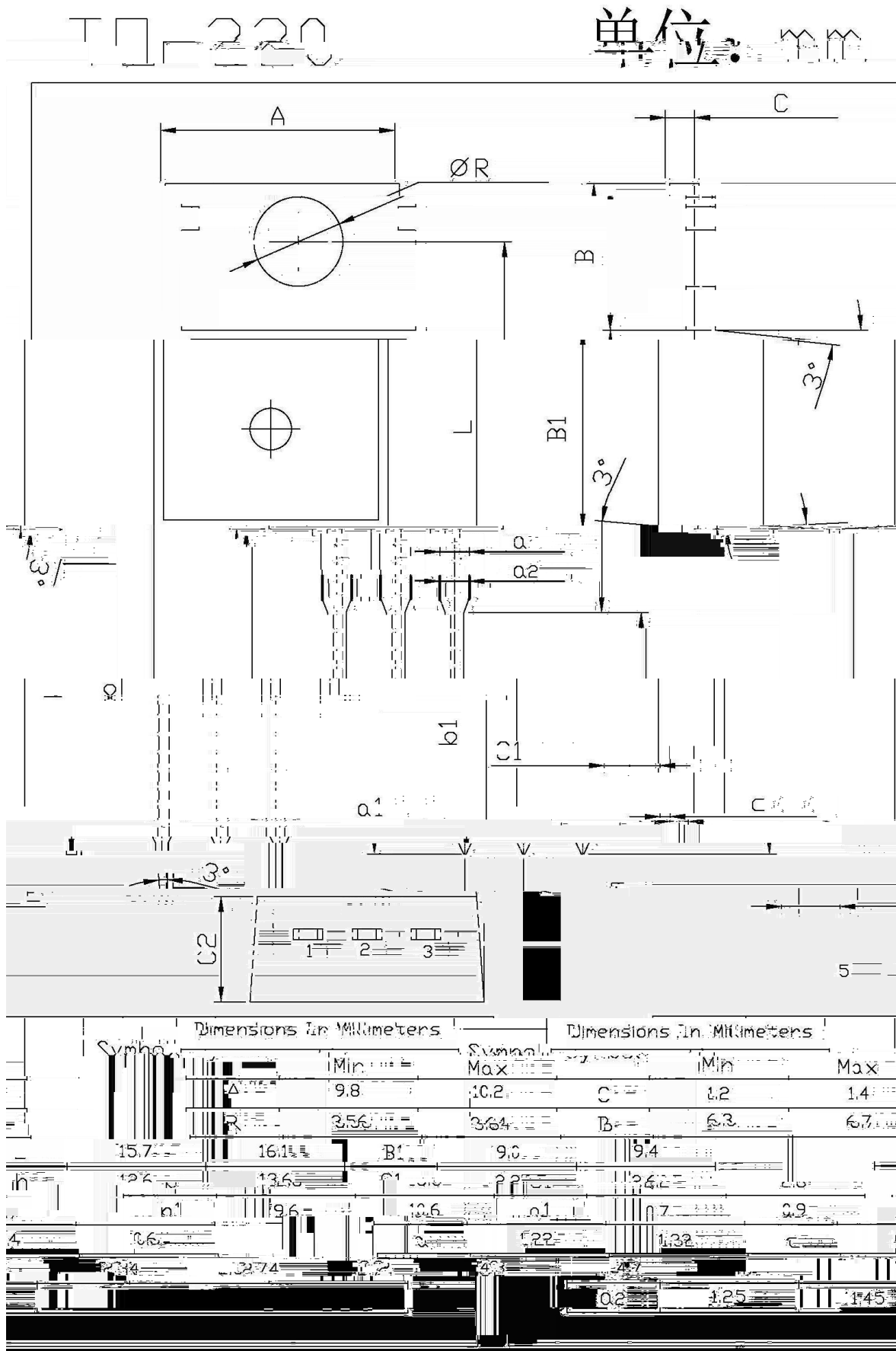
/ Electrical Characteristic Curve

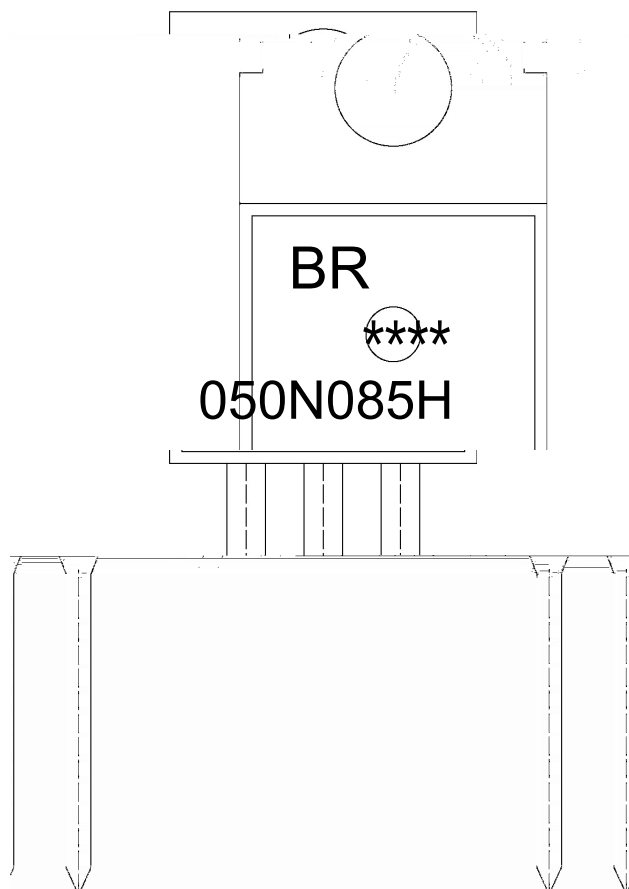


/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions

说明：

BR： 为公司代码

050N085H： 为型号代码

****： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code

050N085H: Product Type.

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

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