/ Revised record

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/ Descriptions

TO-220 N

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

/ Features

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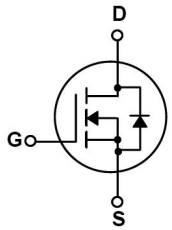
Ultra Low On-Resistance,fast switching.

/ Applications

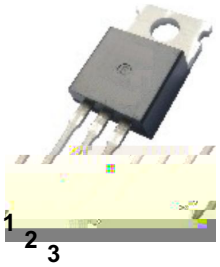
PFC

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(Ta=25)

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

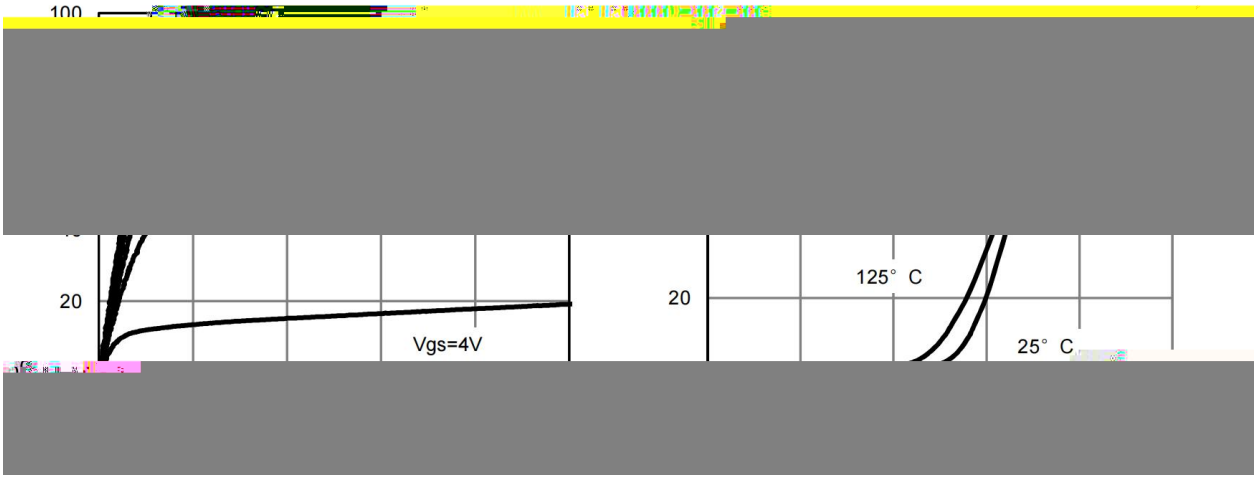
/ Electrical Characteristics(Ta=25)

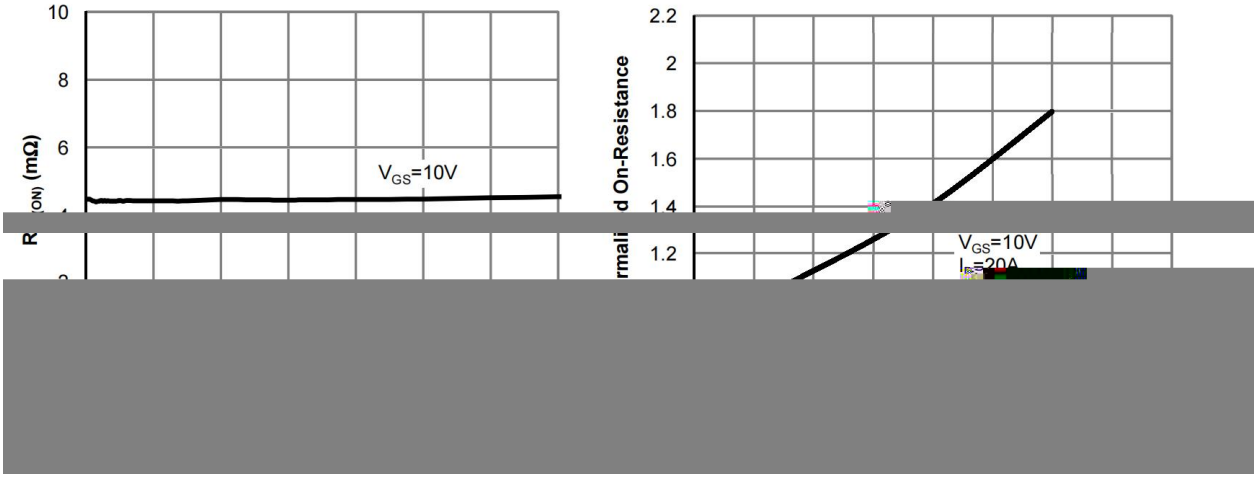
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	85			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=85V V_{GS}=0V			1	μA
		T_J=125℃			5	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$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

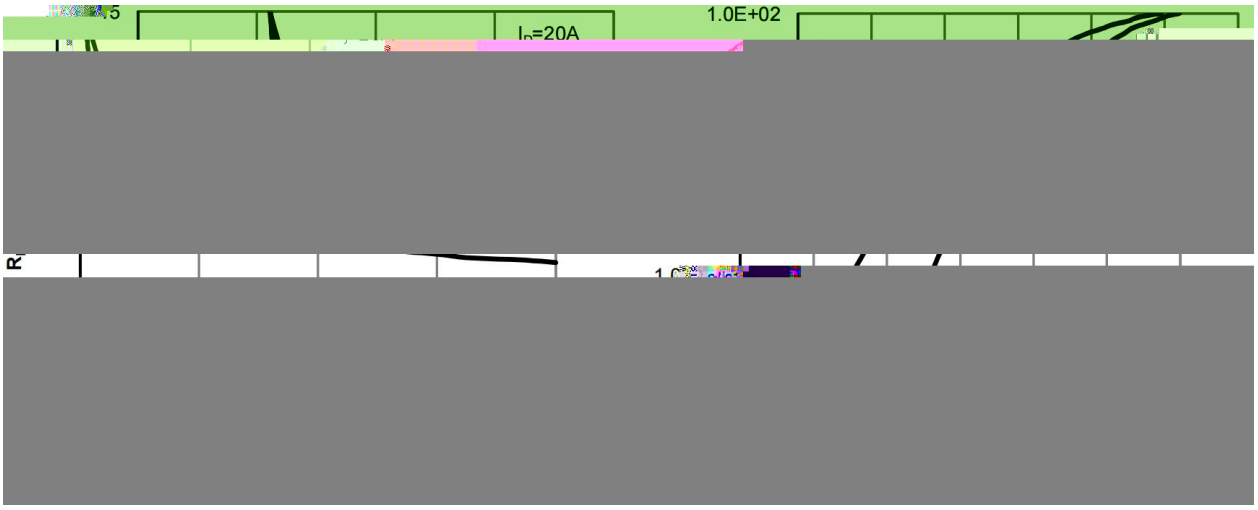
/ Electrical Characteristics(Ta=25)

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

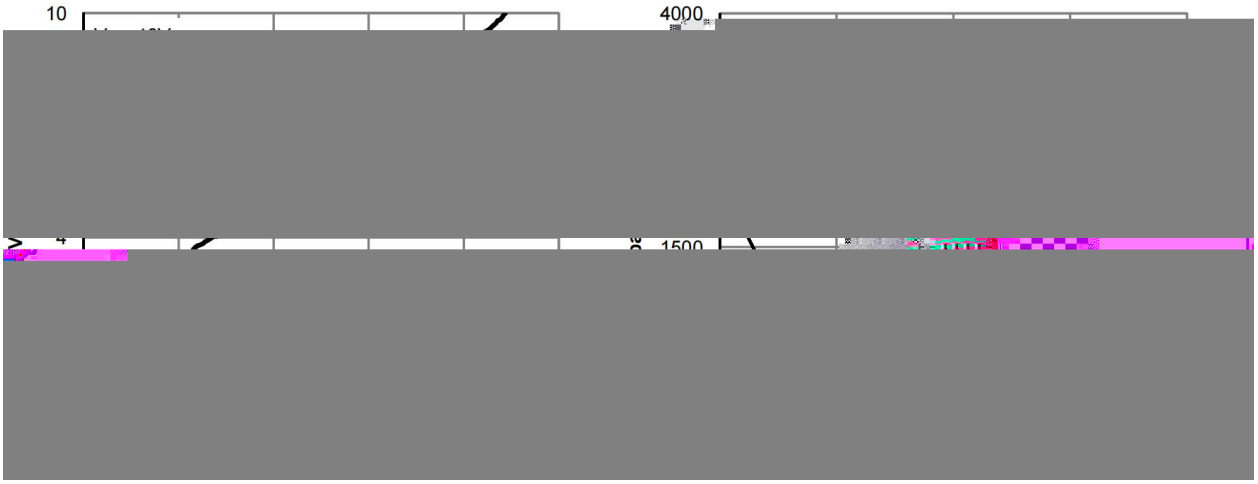
/ Electrical Characteristic Curve

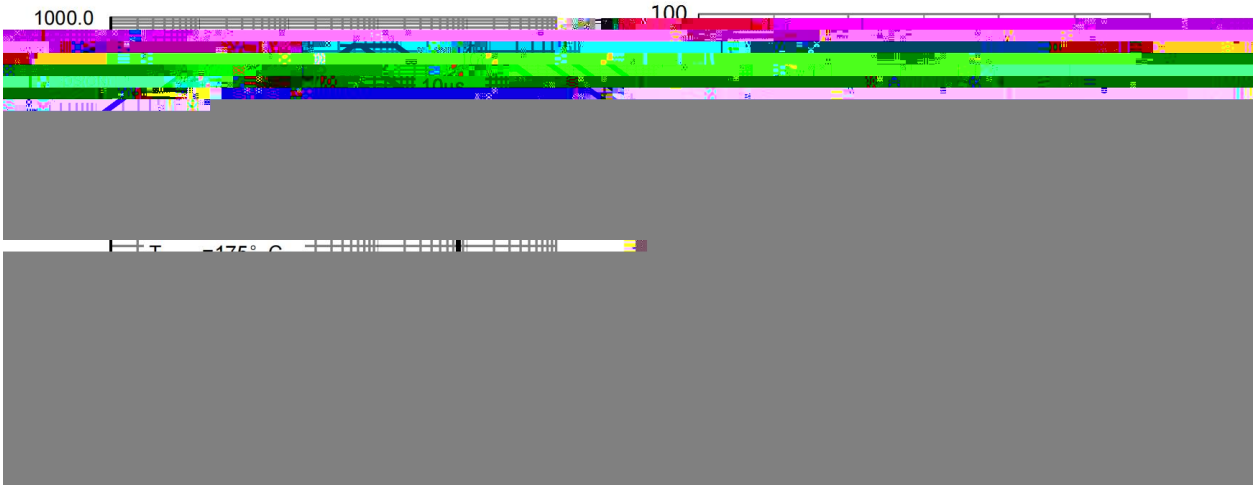


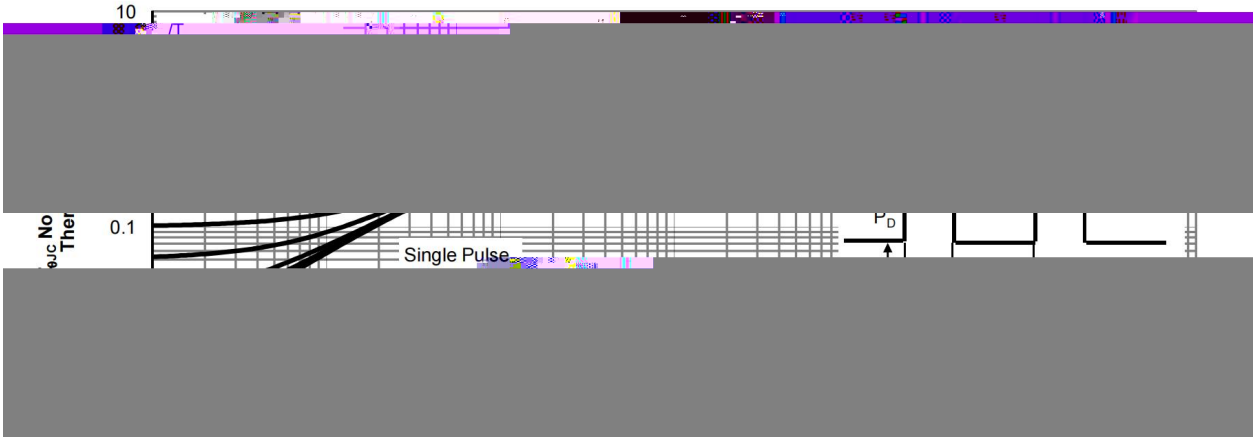




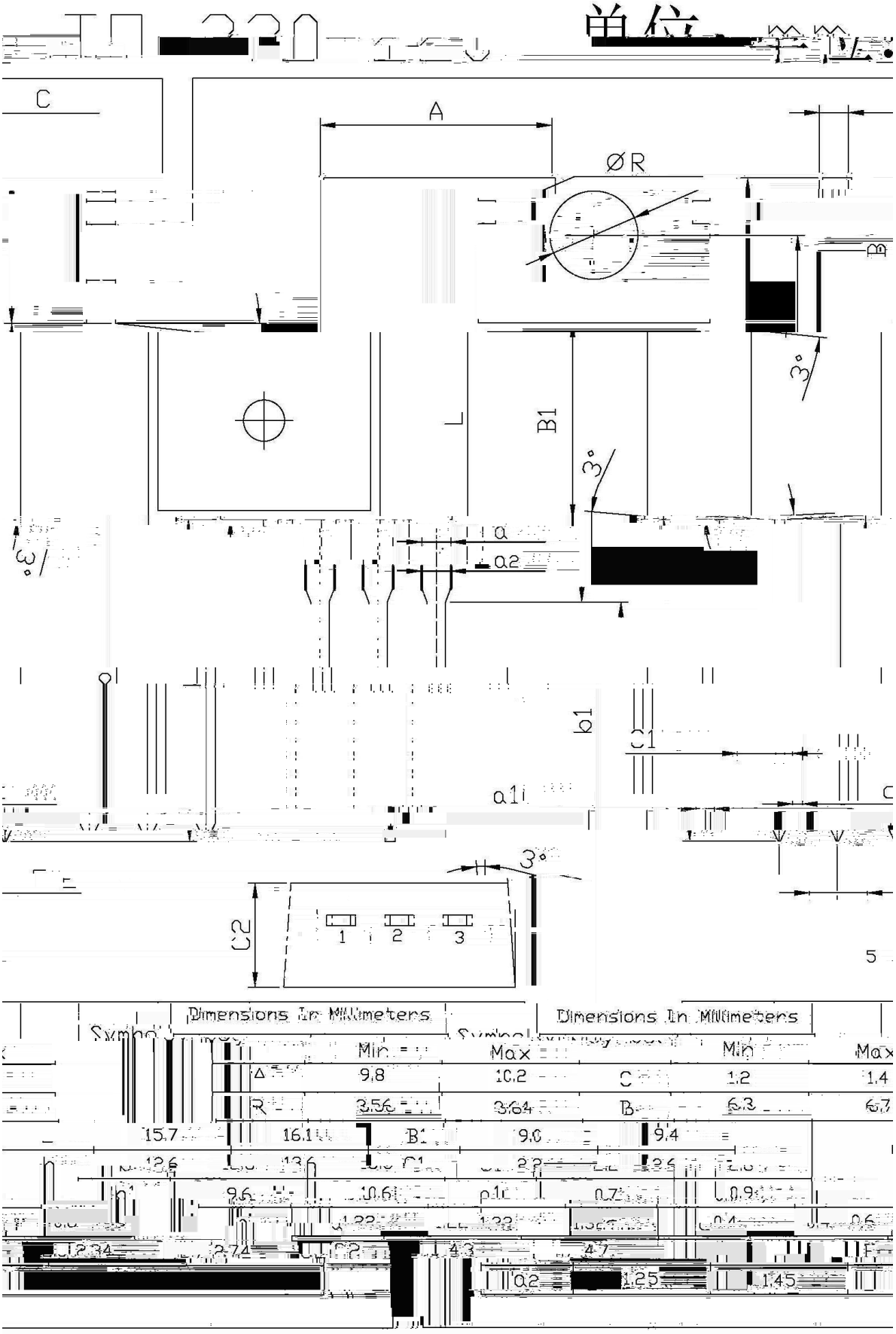
/ Electrical Characteristic Curve





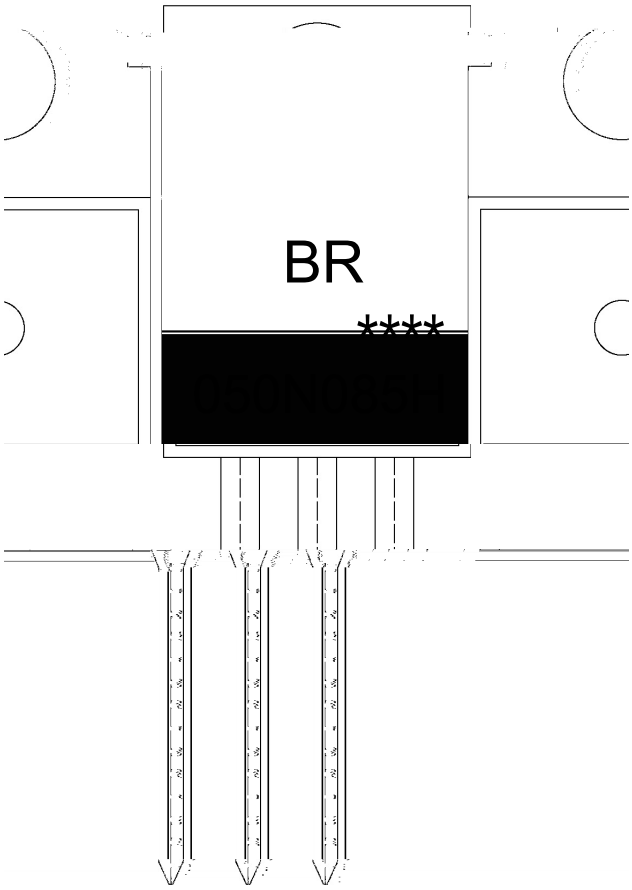


/ Package Dimensions



Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
15.7	16.1	B1	9.0	9.4	
12.6	13.6	C1	2.2	2.6	
9.6	10.6	a1	0.7	0.9	
1.22	1.32		0.4	0.6	
2.34	2.74	c2	4.3	4.7	
		a	0.2	1.25	1.45

/ 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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