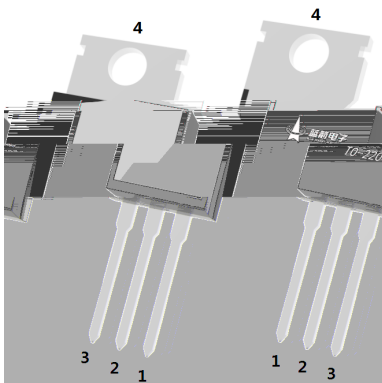
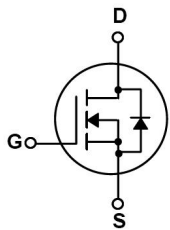


TO-220 N
 N-CHANNEL MOSFET in a TO-220 Plastic Package.

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



PIN1 G PIN 2 4 D PIN 3 S

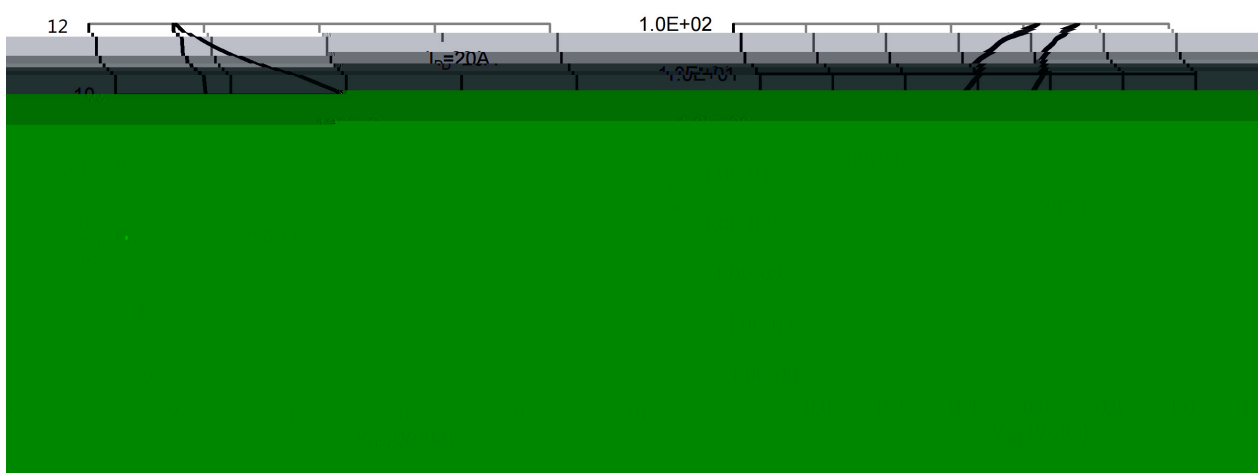
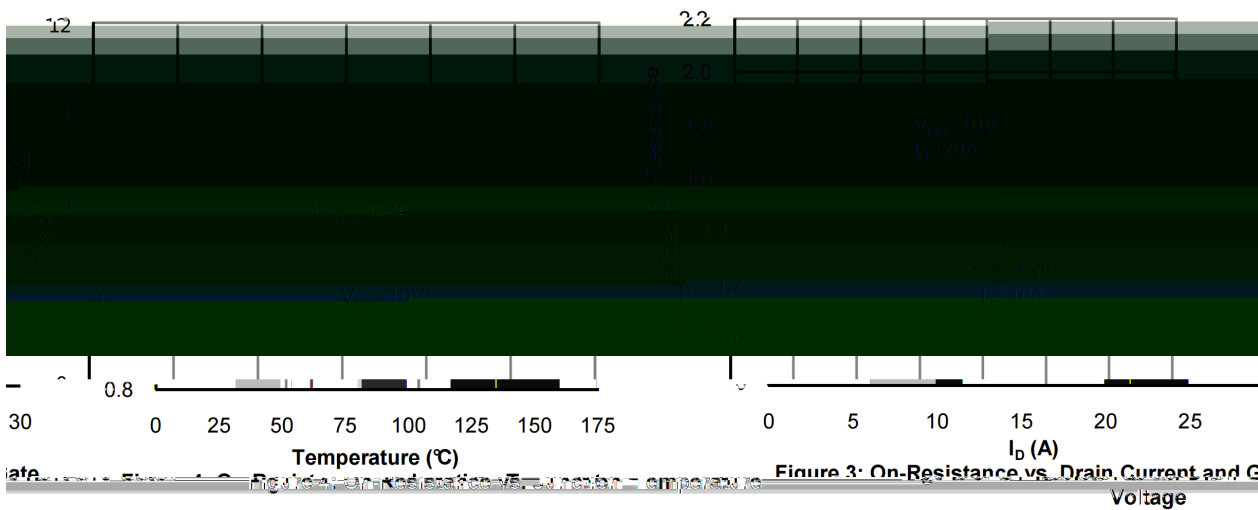
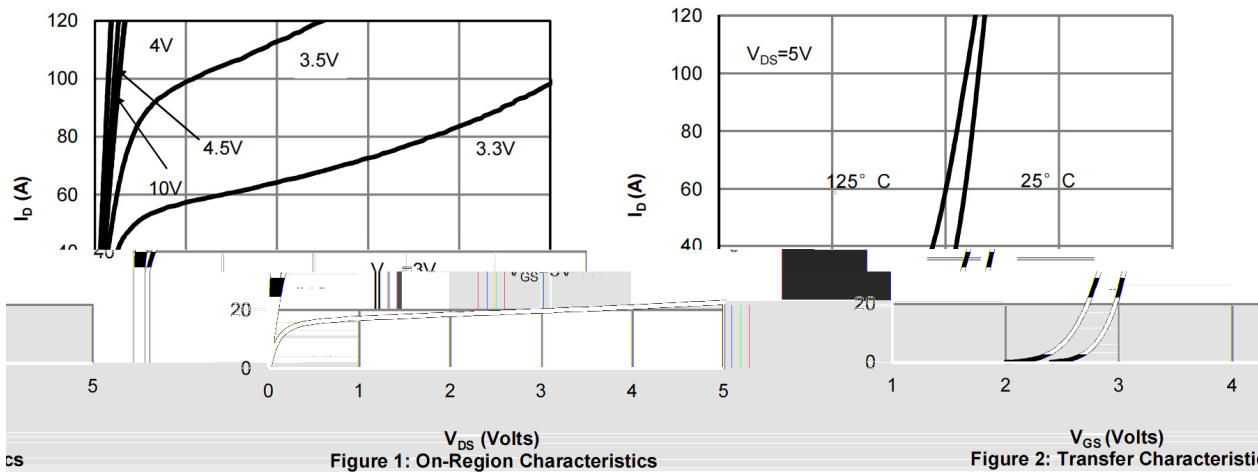
See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	40	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	196	A
Pulsed Drain Current		I_{DM}	500	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy($L=0.5\text{mH}$)		E_{AS}	561.8	mJ
Avalanche Current		I_{AS}	26.5	A
Total Power Dissipation		$P_D(T_C=25^\circ\text{C})$	347	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	15	/W
	Steady-State		60	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.36	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\text{ A}$	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=40\text{V}$ $V_{GS}=0\text{V}$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	1	1.7	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		4.5	5.5	m
		$V_{GS}=4.5\text{V}$ $I_D=10\text{A}$		7	10	
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V

Gate resistance R_g $f=1\text{MHz}$ 2.3

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_g(10V)$	$V_{GS}=10V$ $V_{DS}=20V$ $I_D=20A$		70		nC
Total Gate Charge	$Q_g(4.5V)$			15		
Gate Source Charge	Q_{gs}			15		
Gate Drain Charge	Q_{gd}			22		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=20V$ $R_L=1$ $R_{GEN}=3$		15		ns
Turn-On Rise Time	t_r			30		
Turn-Off Delay Time	$t_{d(off)}$			54		
Turn-Off Fall Time	t_f			20		



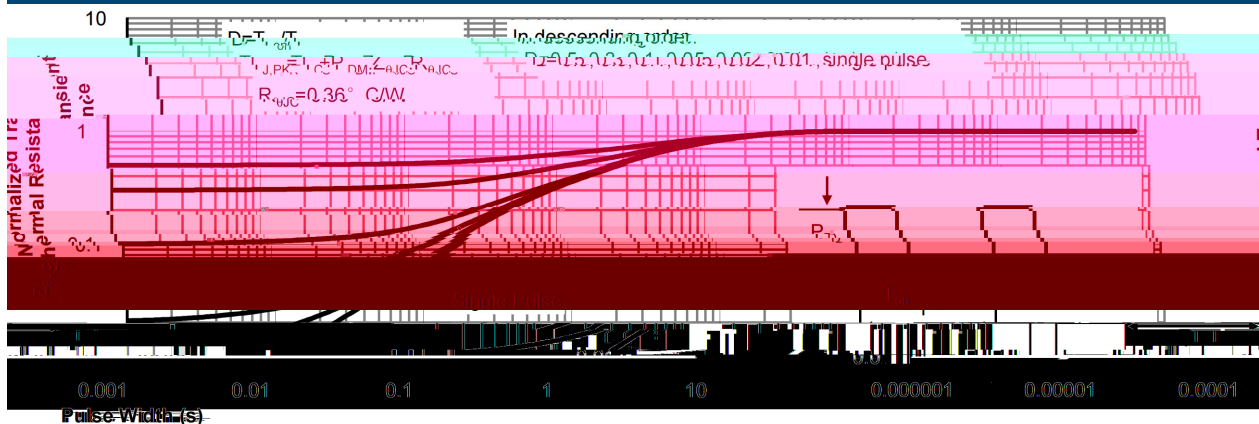
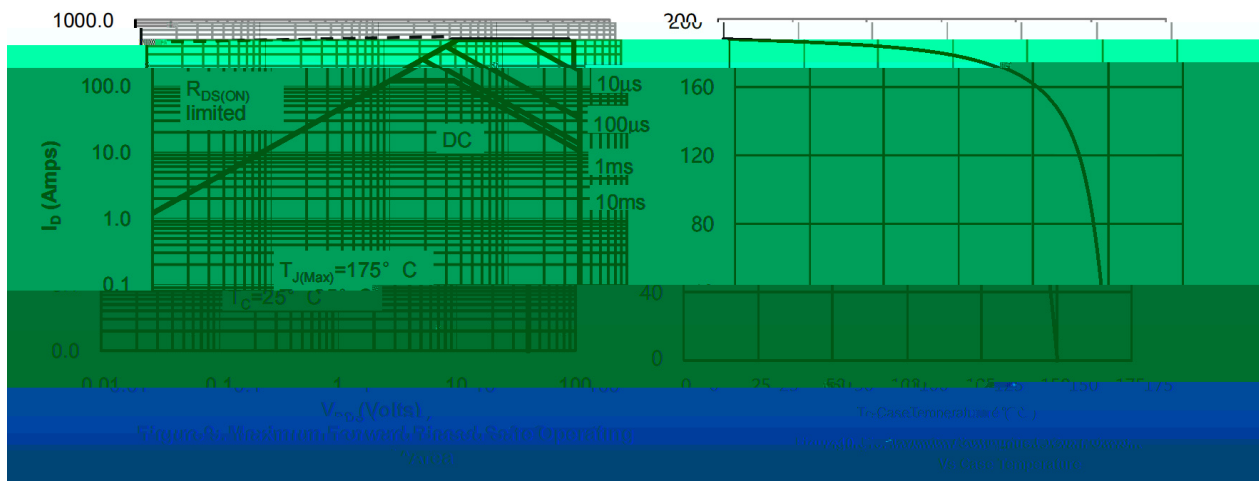
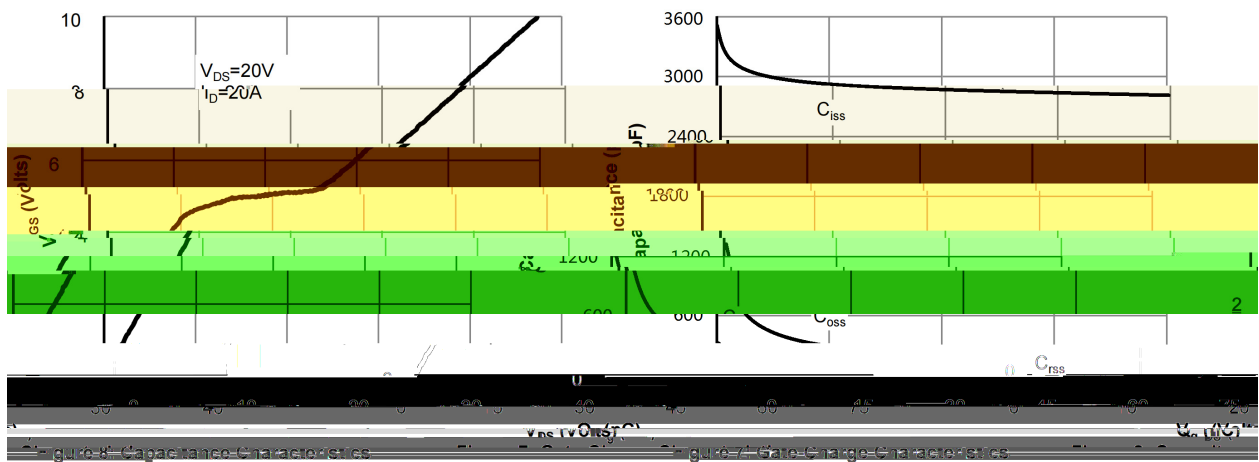
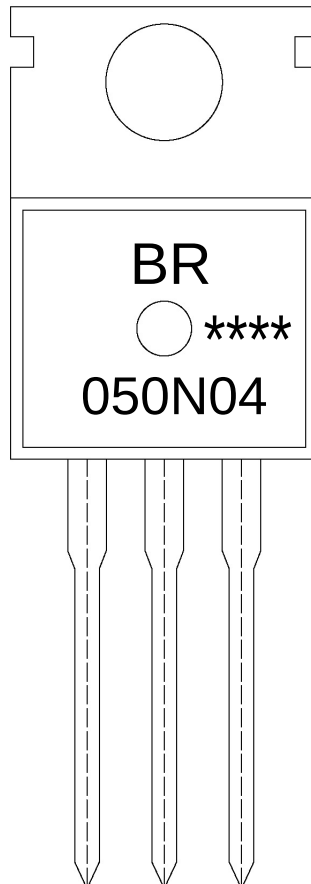


Figure 11: Normalized

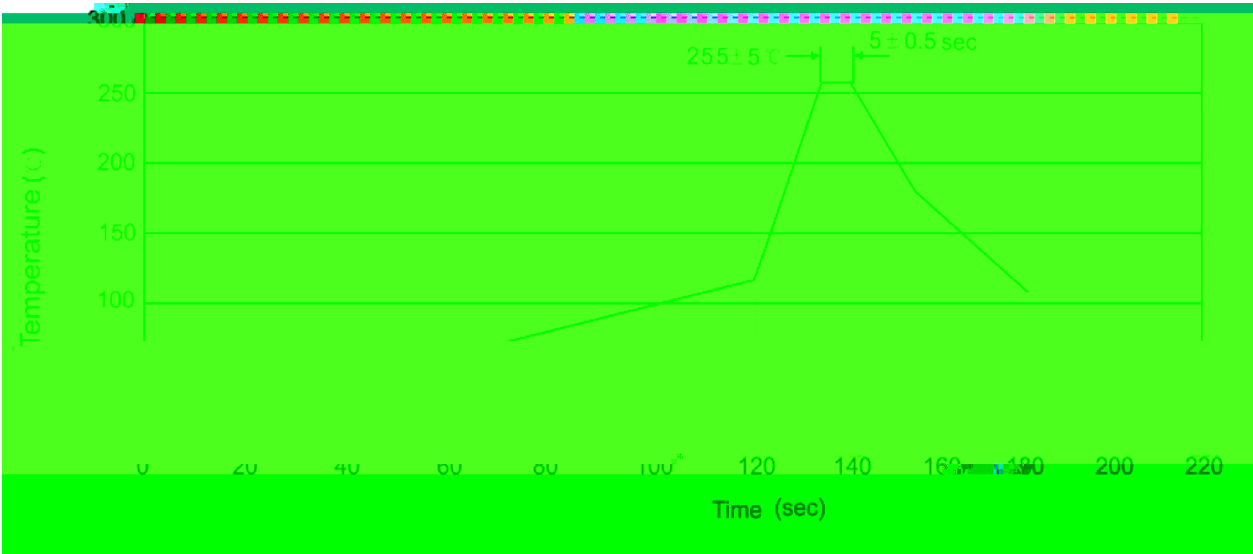


Note:

BR: Company Code

050N04: Product Type

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



- 1

25 150

60 90sec;

2

255 5

5 0.5sec;

3

2 10

/sec.
- Note:

1.Preheating:25~150 , Time:60~90sec.

2.Peak Temp.:255 5 , Duration:5 0.5sec.

3. Cooling Speed: 2~10 /sec.

270 5

10 1 sec.

Temp.:270±5

Time:10±1 sec

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180