



Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	325	A
	$I_D(T_C=100^\circ\text{C})$	325	A
Pulsed Drain Current	I_{DM}	1300	A
Gate-Source Voltage	V_{GS}	20	V
Single Pulsed Avalanche Energy $L=1.0\text{mH}$	E_{AS}	1250	mJ
Continuous-Source Current	$I_S(T_C=25^\circ\text{C})$	300	A
Total Power Dissipation	$P_D(T_C=25^\circ\text{C})$	375	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 175	
Thermal Resistance-Junction to Ambient	R_{JA}	60	/W
Thermal Resistance-Junction to Case	R_{JC}	0.4	

Notes:

Pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$
 Surface Mounted on 1 in² pad area, $t \leq 10\ \text{sec}$
 Limited by bonding wire

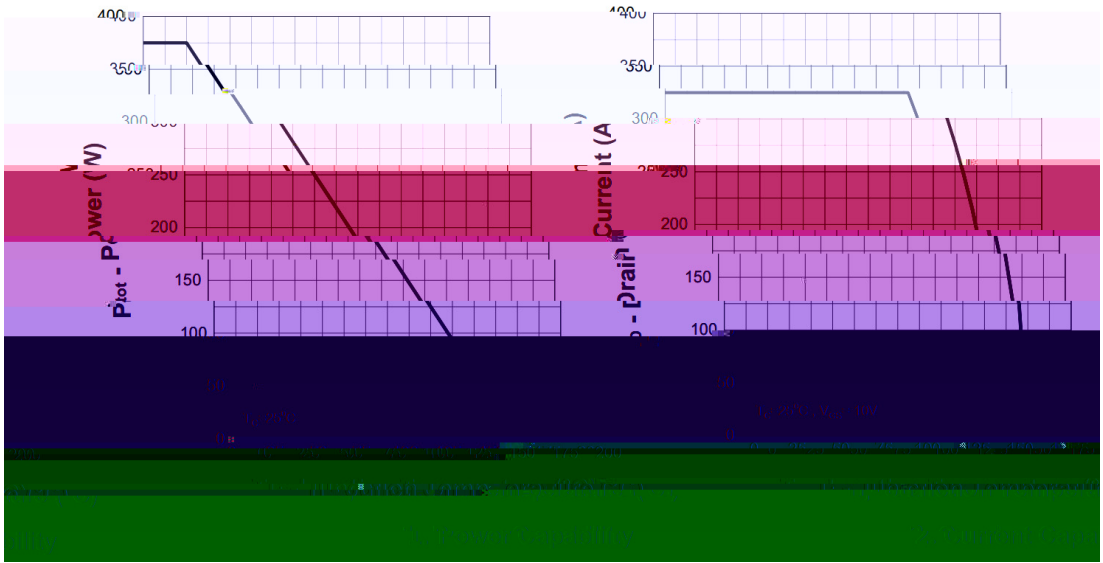
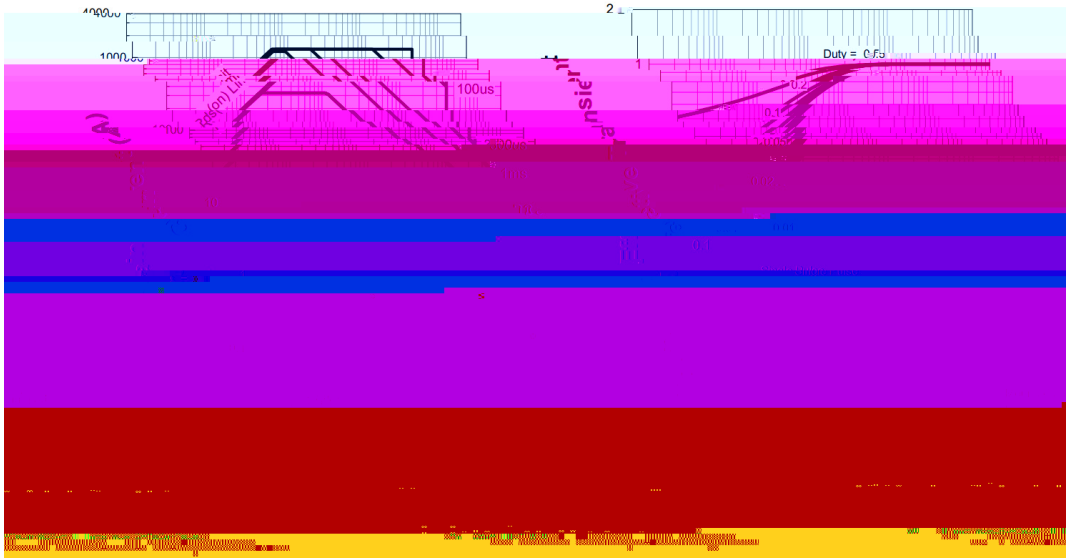
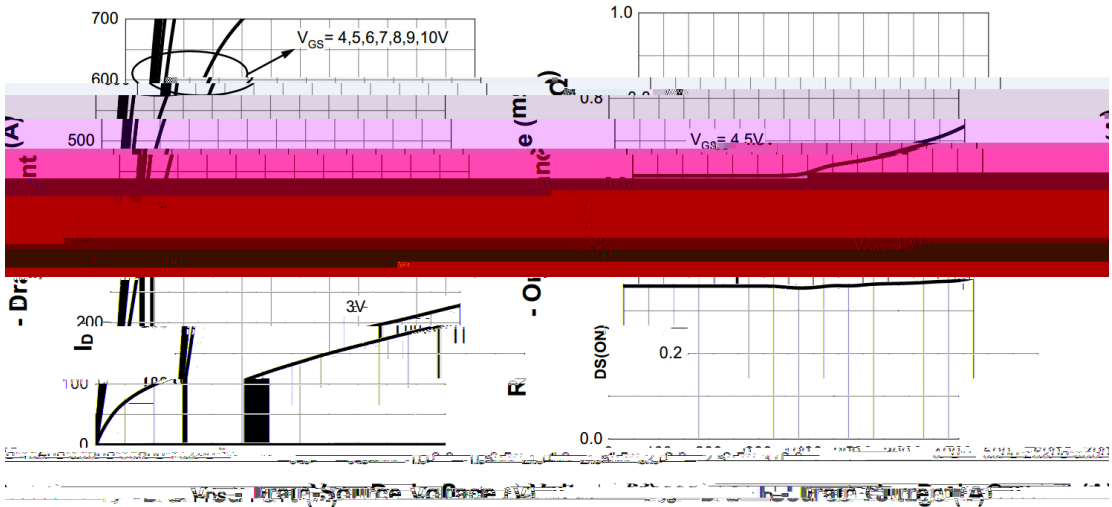
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=32V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1		2	V

Static Drain-Source


/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=10V, \quad V_{DS}=20V,$ $I_D=50A$		169		nC
Gate Source Charge	Q_{gs}			27		
Gate Drain Charge	Q_{gd}			37		
Turn-On Delay Time	$t_{d(on)}$	$V_{GEN}=10V \quad V_{DS}=20V$ $R_L=0.4\Omega \quad R_G=3.9\Omega$ $I_{DS}=50A$		14		ns
Turn-On Rise Time	t_r			92		
Turn-Off Delay Time	$t_{d(off)}$			178		
Turn-Off Fall Time	t_f			144		

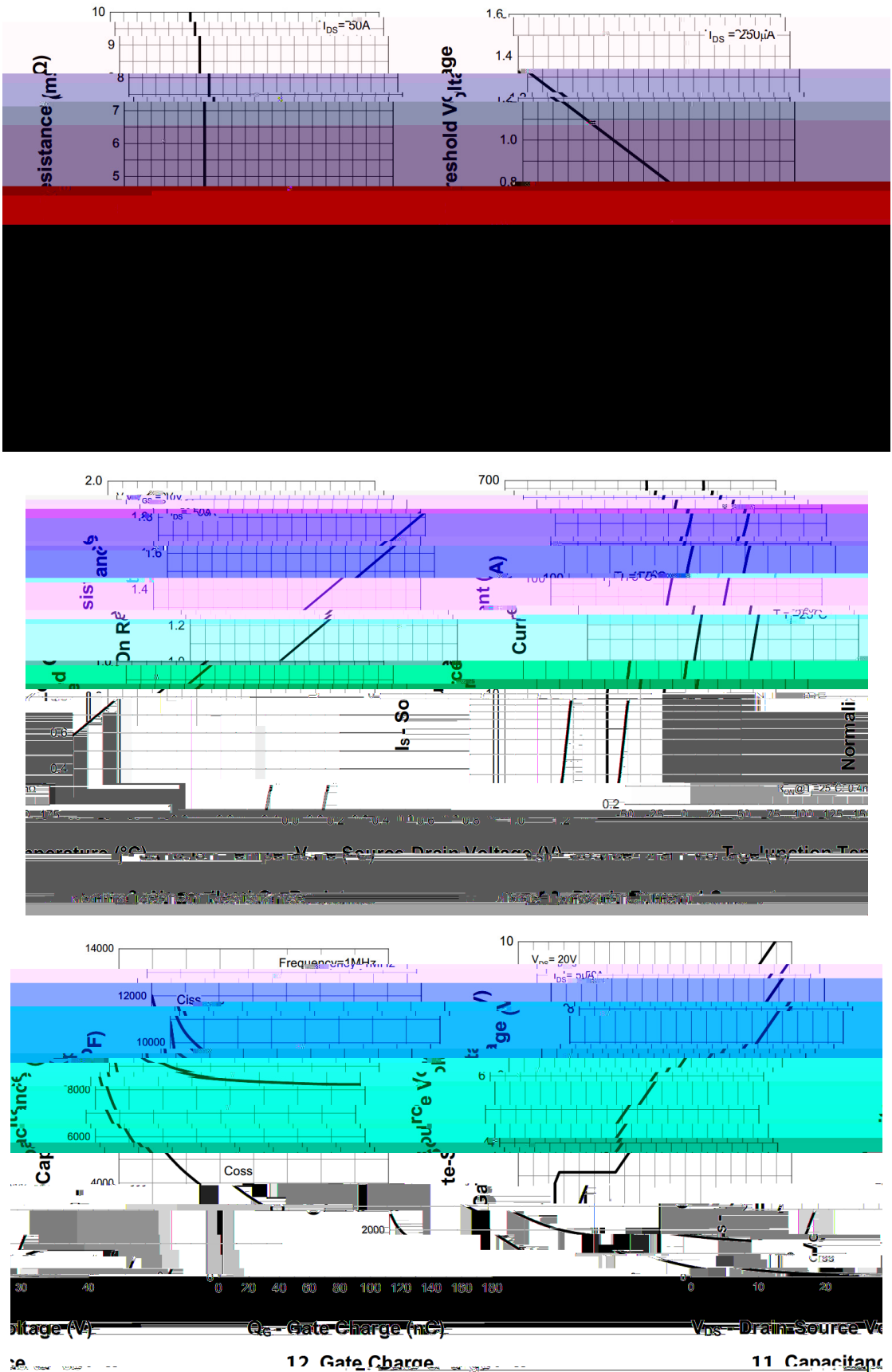
Electrical Characteristic Curve



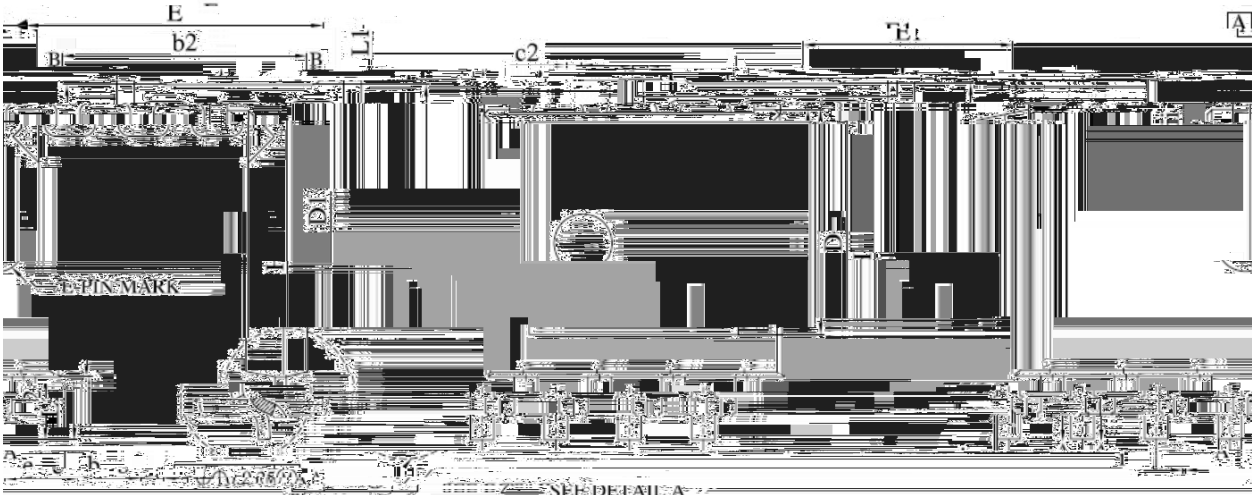
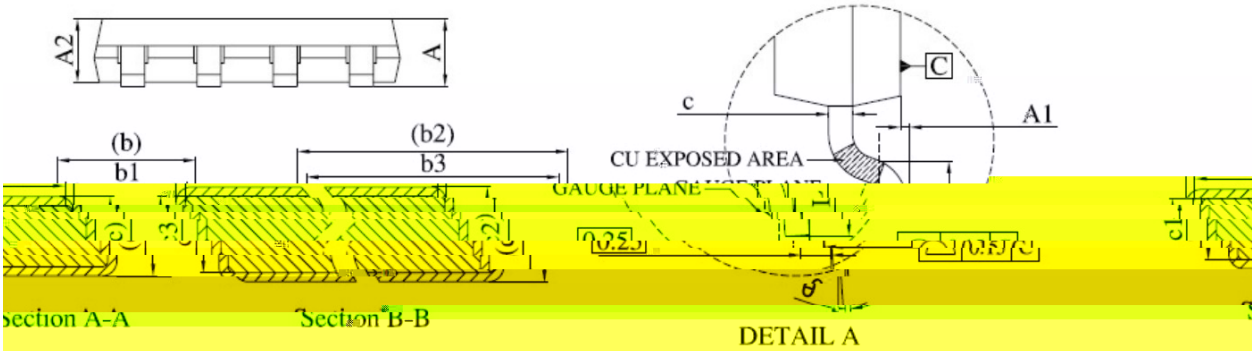
4 On Resistance

3 Output Characteristics

/ Electrical Characteristic Curve



/ Package Dimensions



Dimensions in Millimeters				Dimensions in Millimeters			
Symbol	MIN	MAX		Symbol	MIN	MAX	
A	1.00	1.40		E	4.95	5.30	
A1	0.00	0.15		E1	3.50	3.70	
A2	0.98	1.12		e	1.27 BSC.		
b	0.35	0.50		H	5.95	6.25	
b1	0.33	0.46		h	-	0.25	

/ Marking Instructions



BR

004N04S

Note

BR: Company Code

004N04S: Product Type Code

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

- Note:
- 1

150 180 60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5 5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units	Dimension	(unit mm ³)
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