/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current ①③	I_D(Tc=25℃)	325	A
	I_D(Tc=100℃)	325	A
Pulsed Drain Current ①②	I_{DM}	1300	A
Gate-Source Voltage	V_{GS}	±20	V
Single Pulsed Avalanche Energy L=1.0mH	E_{AS}	1250	mJ
Continuous-Source Current	I_S(Tc=25℃)	300	A
Total Power Dissipation①	P_D(Tc=25℃)	375	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 175	℃
Thermal Resistance-Junction to Ambient①	$R_{\theta JA}$	60	℃/W
Thermal Resistance-Junction to Case①	$R_{\theta JC}$	0.4	

Notes:
① Pulse width ≤ 300 μs, duty cycle ≤ 2 %
② Surface Mounted on 1 in^2 pad area, t ≤ 10 sec
③ Limited by bonding wire

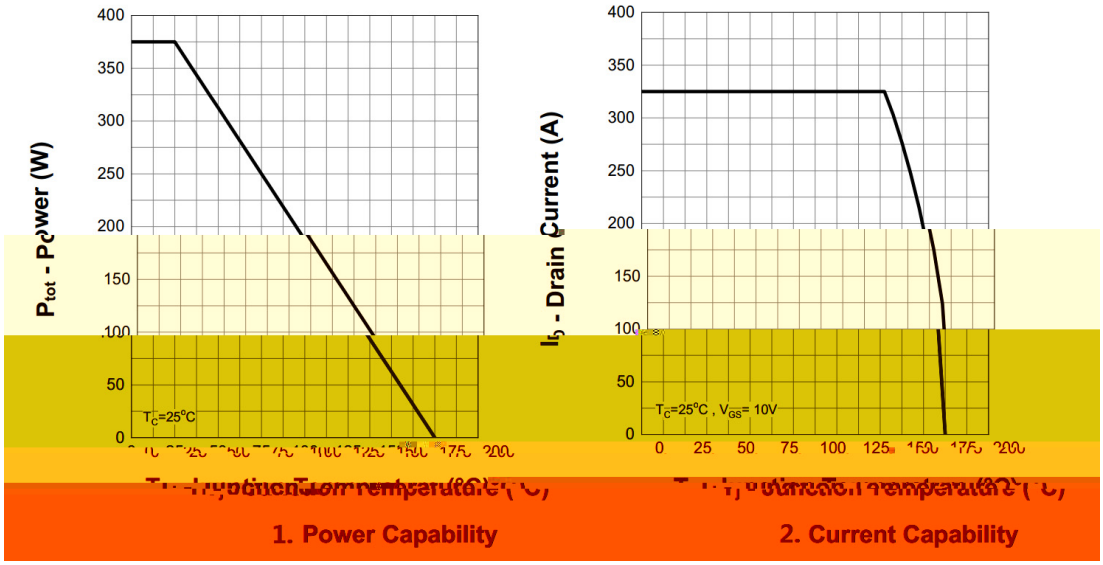
/ Electrical Characteristics(Ta=25)

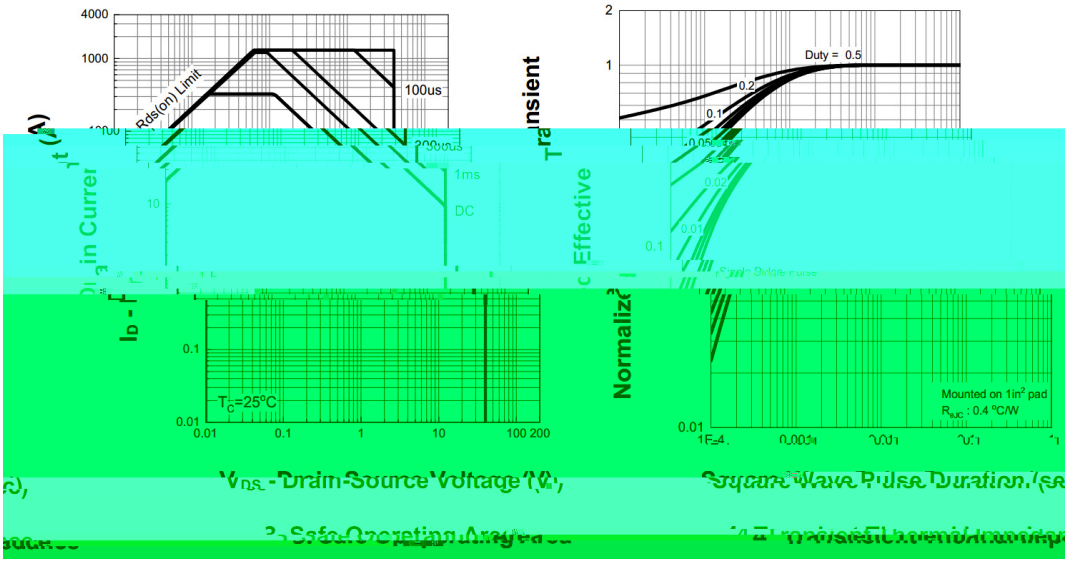
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=32V V_{GS}=0V			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	1		2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=50A		0.41	0.46	mΩ
	$R_{DS(on)}$	V_{GS}=4.5V I_D=30A		0.65	0.75	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=50A			1.3	V
Reverse Recovery Time	trr	I_{DS} = 50A, V_{GS} = 0 V dIsD/dt = 100 A/μs		65		nS
Reverse Recovery Charge	Qrr			58		nC
Input Capacitance	C_{iss}	V_{DS}=20V V_{GS}=0V f=1.0MHz		8375		pF
Output Capacitance	C_{oss}			2536		
Reverse Transfer Capacitance	C_{rss}			213		

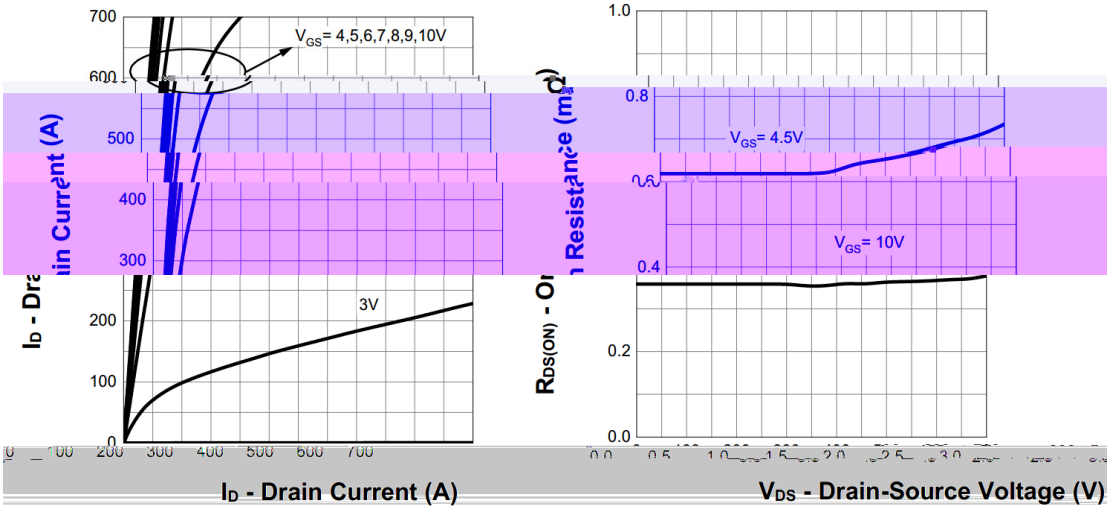
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	V_{GS}=10V, 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 V_{DS}=20V R_L=0.4Ω R_G=3.9Ω 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



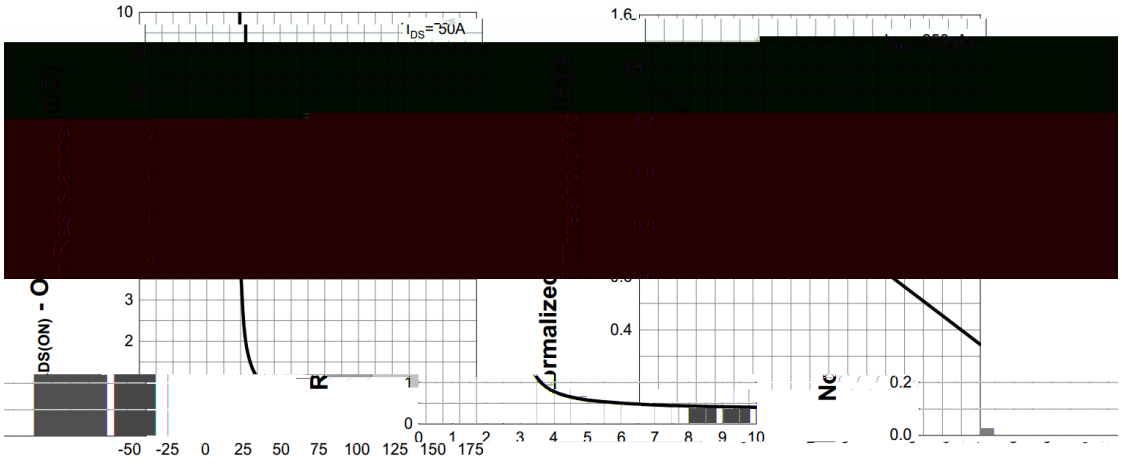




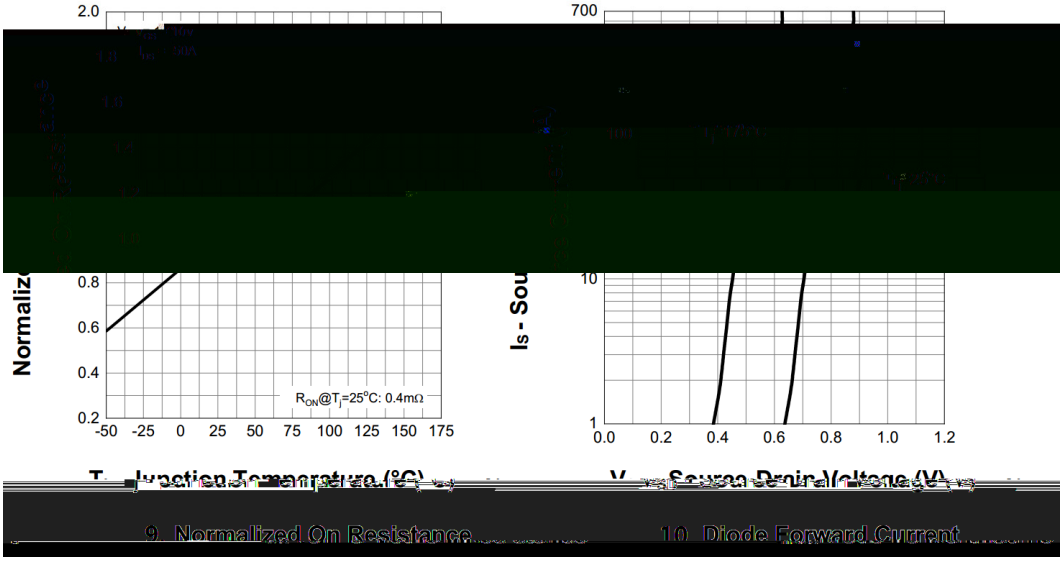
4. On Resistance

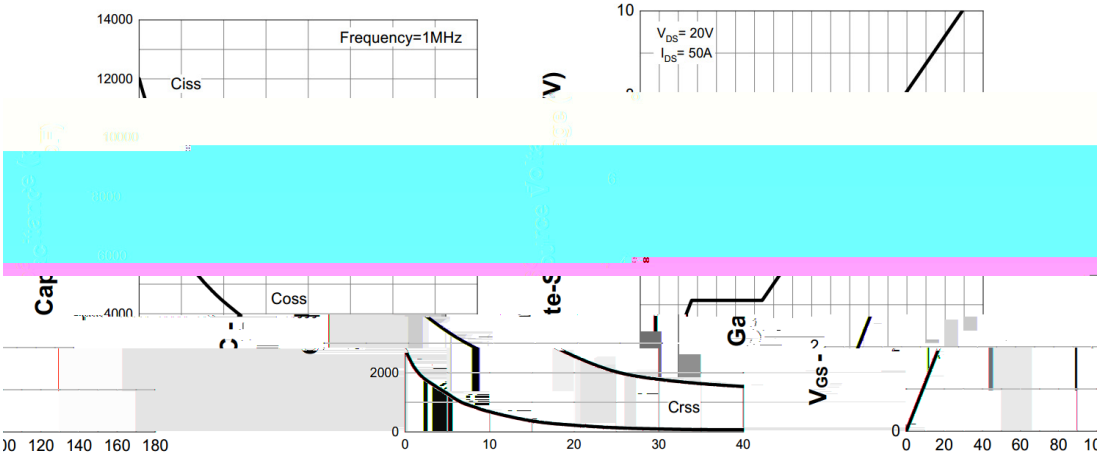
3. Output Characteristics

/ Electrical Characteristic Curve



8. Normalized Threshold Voltage　　7. Transfer Characteristics

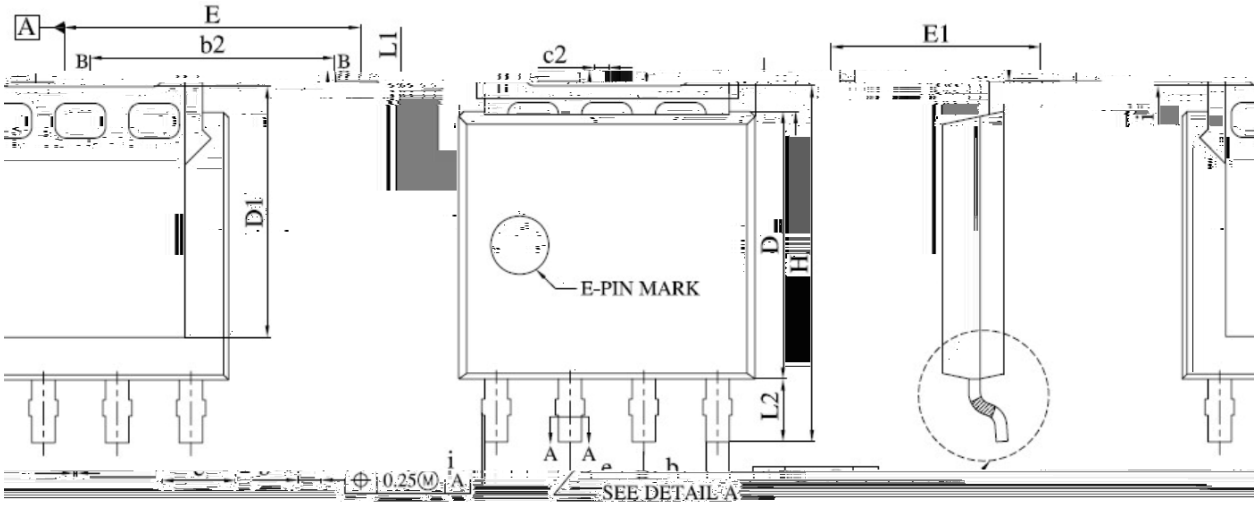


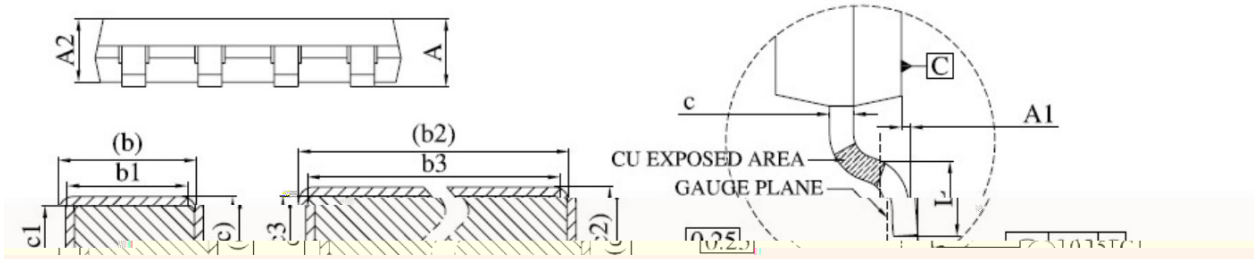


rge (nC)　　11. Capacitance　　12. Gate

Charge

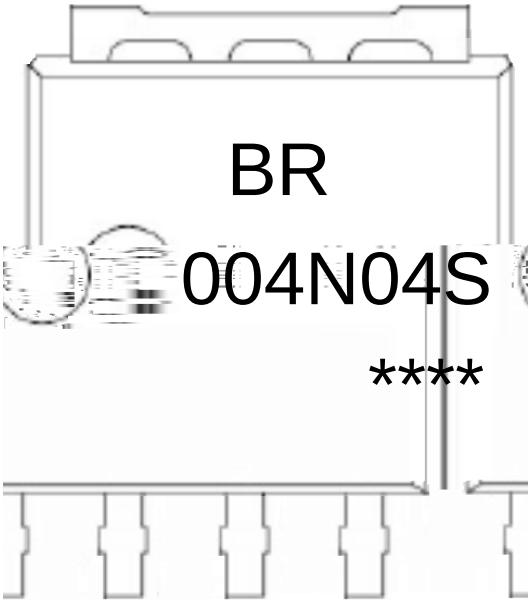
/ Package Dimensions





Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	MIN.	MAX.		MIN.	MAX.
A	1.00	1.30	E	4.95	5.20
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	0.32	0.46	L		0.25
b2	4.02	4.41	L1	0.40	0.85
b3	4.00	4.37	L2	0.27	0.57
c	0.19	0.25	L3	0.30	1.30
c1	0.17	0.23	θ	0°	8°
c2	0.24	0.30			
D	5.72	5.98			
D1	4.45	4.70			
D2		4.46			

/ Marking Instructions

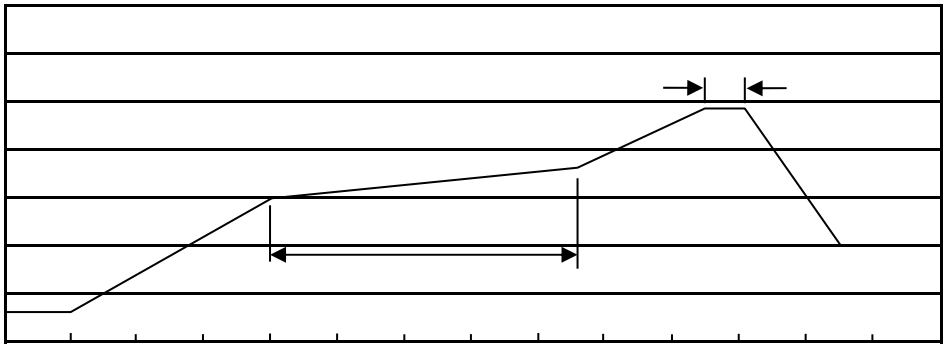


004N04S

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 mm³)
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
LFPAK5×6	3,000	2	6,000	5	30,000	13''×12	356×335×50	385×285×358

Package Type	Units					Dimension		(unit mm³)
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
LFPAK5×6	5,000	2	10,000	5	50,000	13''×12	356×335×50	385×285×358

/ Notices

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