

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Drain Current ^{①③}	$I_D(T_C=25^{\circ}C)$	325	A
	$I_D(T_C=100^{\circ}C)$	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	$I_S(T_C=25^{\circ}C)$	300	A
Total Power Dissipation ^①	$P_D(T_C=25^{\circ}C)$	375	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 175	$^{\circ}C$
Thermal Resistance-Junction to Ambient ^①	$R_{\theta JA}$	60	$^{\circ}C/W$
Thermal Resistance-Junction to Case ^①	$R_{\theta JC}$	0.4	

Notes:

- ① Pulse width 300 μ s, duty cycle 2 %
 ② Surface Mounted on 1 in² pad area, t 10 sec
 ③ Limited by bonding wire

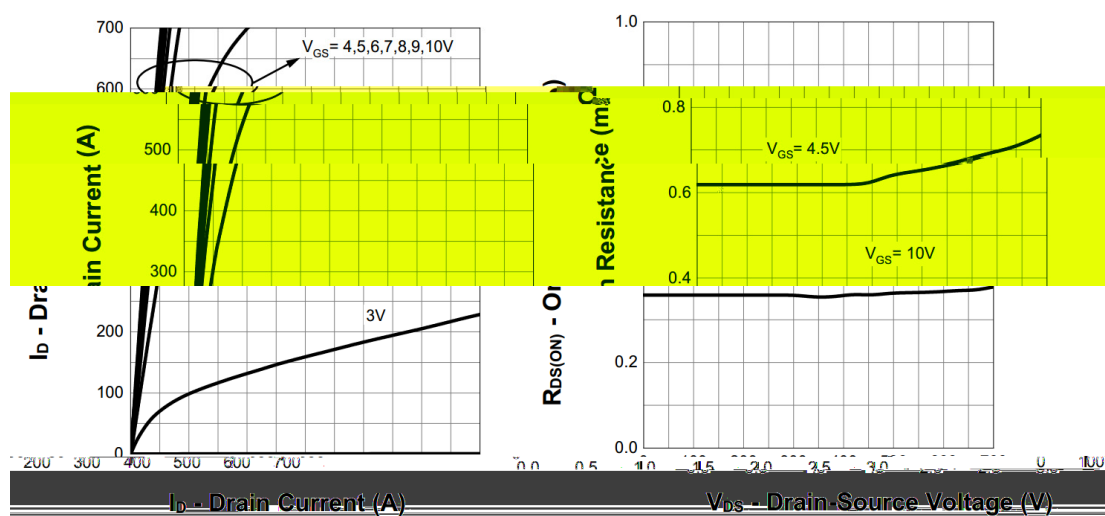
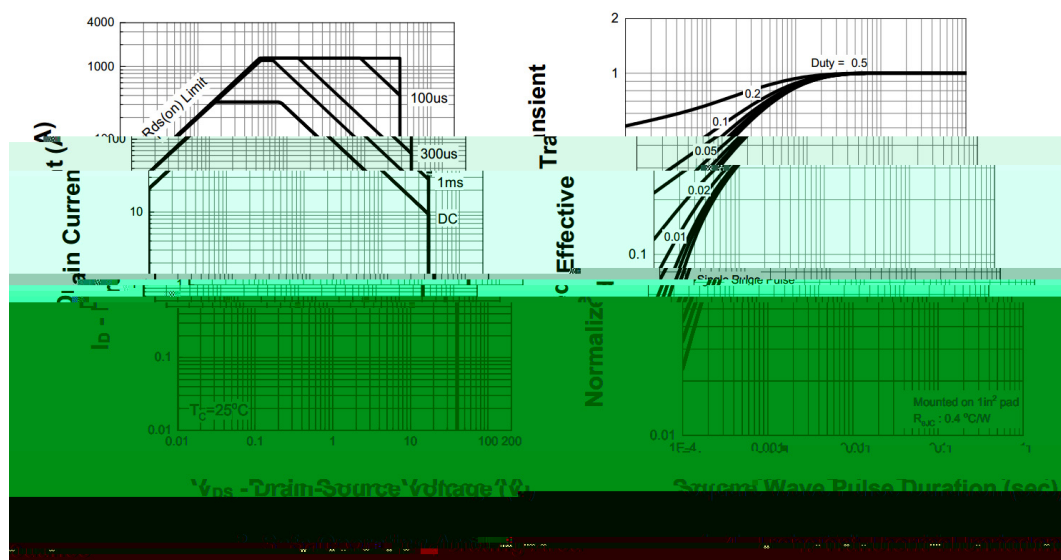
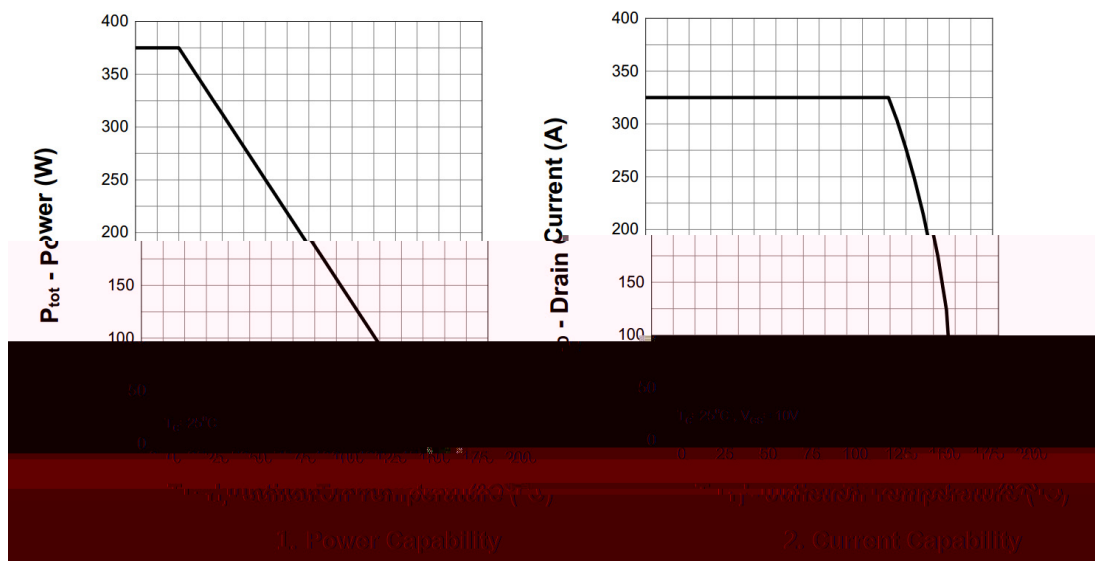
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250$ A	40			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=32V$ $V_{GS}=0V$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250$ A	1		2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=50A$		0.41	0.46	m
	$R_{DS(on)}$	$V_{GS}=4.5V$ $I_D=30A$		0.65	0.75	m
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=50A$			1.3	V
Reverse Recovery Time	t_{rr}	$I_{DS} = 50A, V_{GS} = 0V$ $dI_{SD}/dt = 100 A/\mu s$		65		nS
Reverse Recovery Charge	Q_{rr}			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		

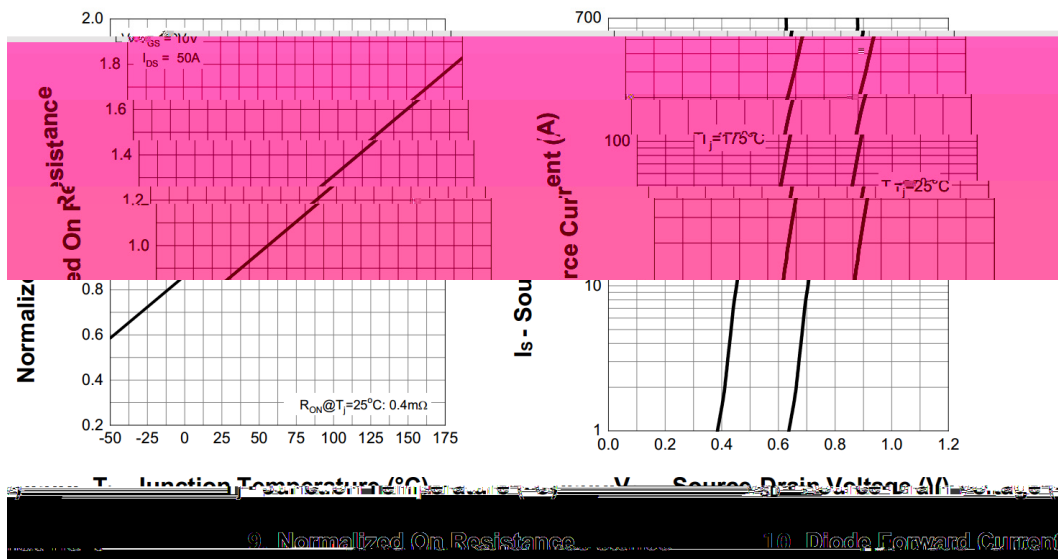
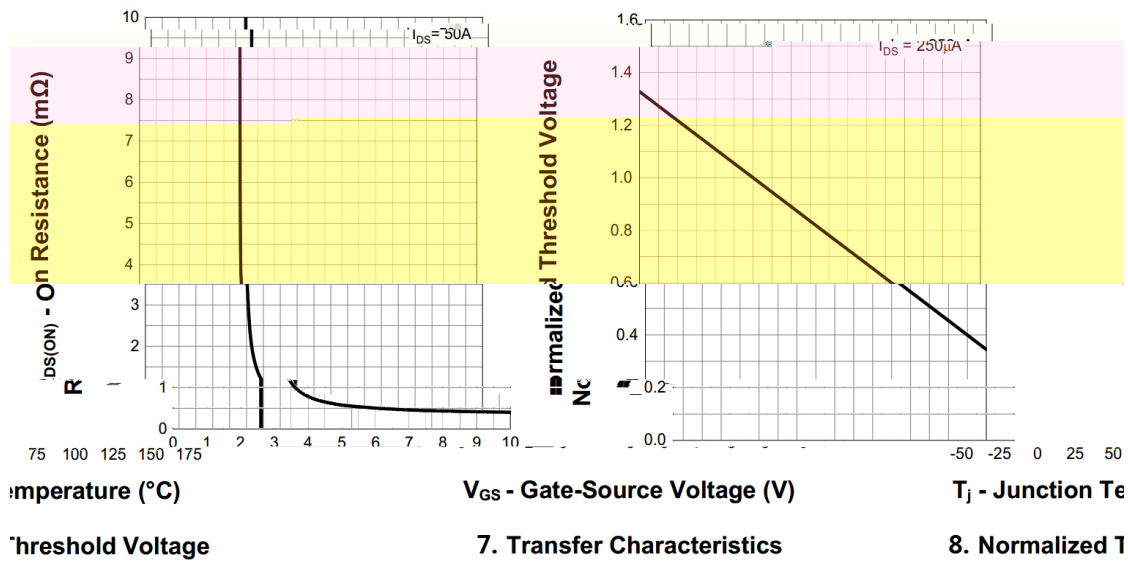
/ Electrical Characteristics(Ta=25)

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

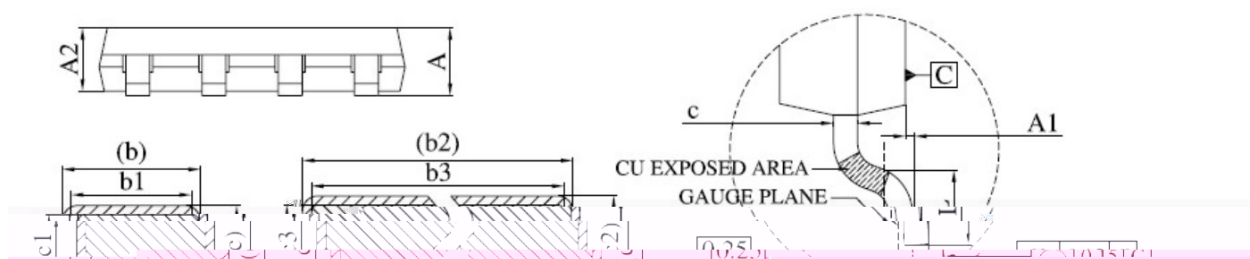
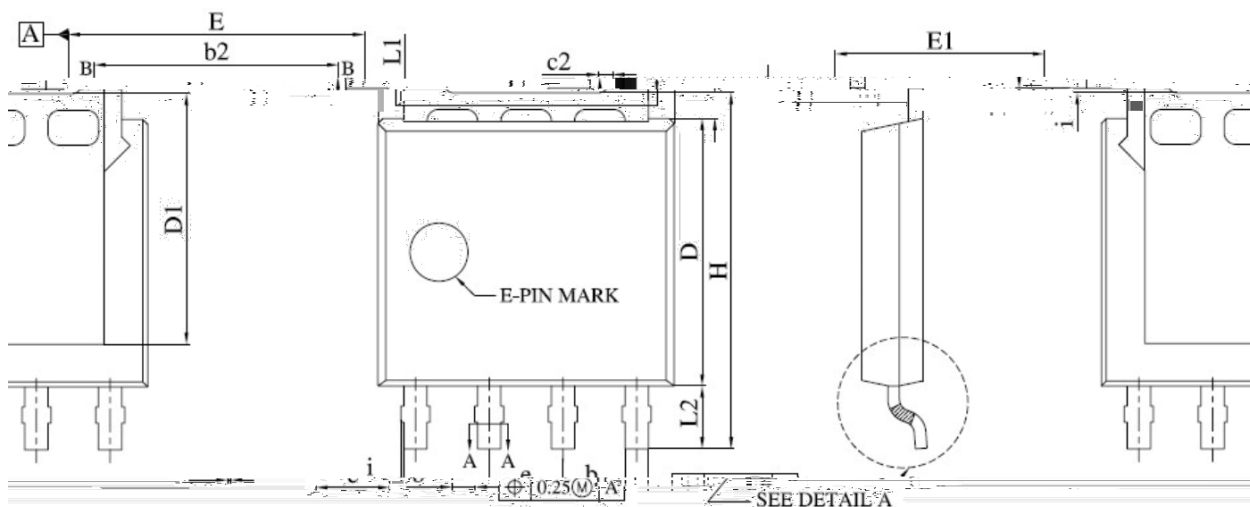
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions



Symbol			Dimensions In Millimeters			Symbol			Dimensions In Millimeters		
			MIN	MAX					MIN	MAX	
A			1.00	1.30		E1			4.95	5.20	
A1			0.00	0.15		c			1.27 BSC.		
A2			0.98	1.12		H			5.95	6.25	
b			0.35	0.50		i			-	0.25	
b1			0.32	0.46		L			0.40	0.85	b2
4.02			4.41			L1			0.27	0.57	b3
4.00			4.37			L2			0.80	1.30	c
0.19			0.25			0			0°	8°	c1
0.17			0.23								c2
0.24			0.30								c3
0.22			0.28								D
4.45			4.70								DI
-			4.45								

/ Marking Instructions



BR

004N04S

Note

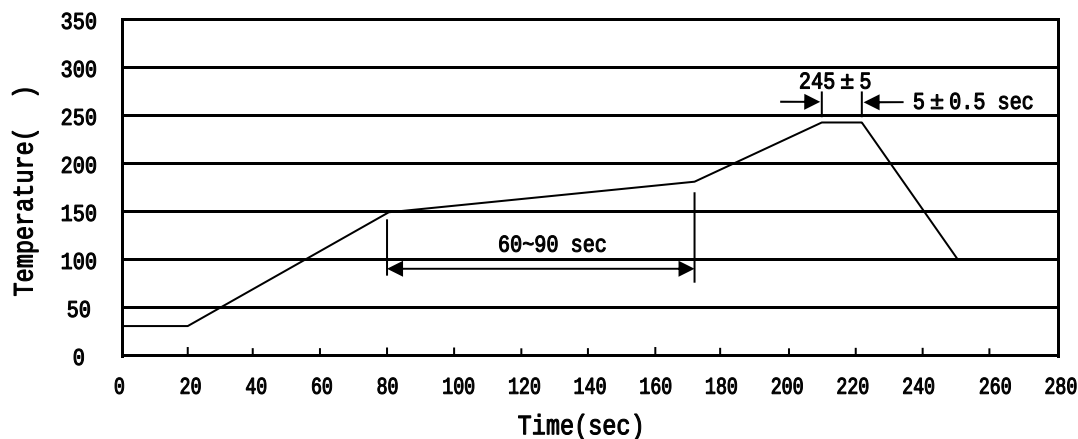
BR: Company Code

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 °C, Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | | 2.Peak Temp.:245±5 °C, Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 °C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
LFPK5×6	3,000	2	6,000	5	30,000	13"×12	356×335×50	385×285×358

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
LFPK5×6	5,000	2	10,000	5	50,000	13"×12	356×335×50	385×285×358

/ Notices

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