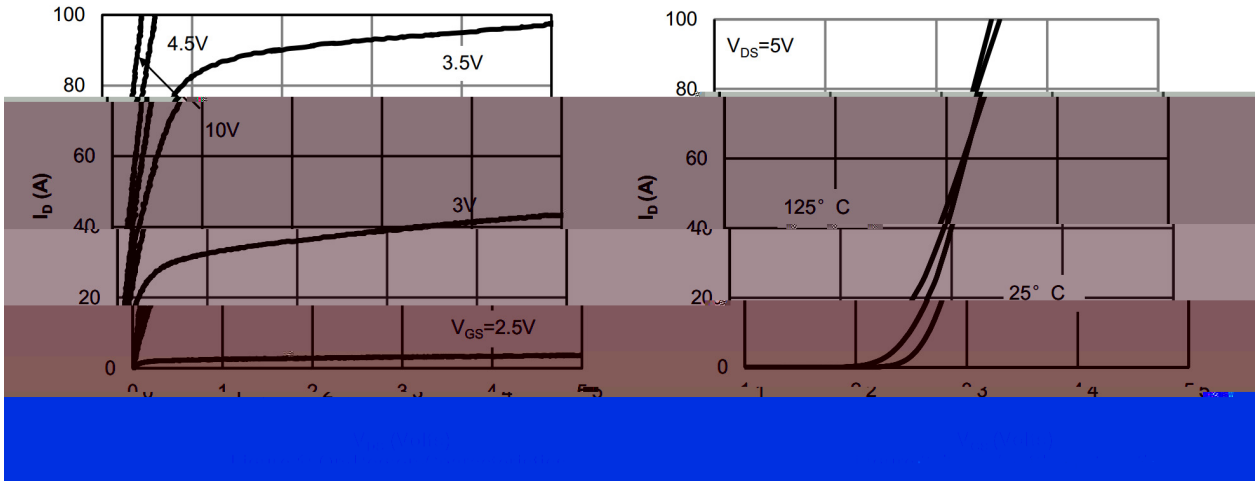
PDFN5 6 N
N-Channel MOSFET in a PDFN5×6 Plastic Package.

V_{DS}

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Continuous Drain Current		I_D(Tc=25℃)	81	A
Pulsed Drain Current		I_{DM}	256	A
Gate-Source Voltage		V_{GS}	±20	V
Power Dissipation		P_D(T_c=25℃)	65	W
Avalanche energy(L=0.5mH)		E_{AS}	253	mJ
Avalanche Current(L=0.5mH)		I_{AS}	22.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	t ≤ 10s	$R_{\theta JA}$	23	/ W
	Steady-State		52	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	1.92	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	60	70		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V 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	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20A		4.9	5.2	mΩ
		V_{GS}=4.5V I_D=10A		6.8	7.5	
Forward On Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.2	V
Gate resistance	R_g	f=1MHz		1.3		Ω
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1900		pF
Output Capacitance	C_{oss}			1000		
Reverse Transfer Capacitance	C_{rss}			60		
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=30V, I_D=20A		45		nC
Total Gate Charge	$Q_{g(4.5V)}$			25		
Gate Source Charge	Q_{gs}			6.8		
Gate Drain Charge	Q_{gd}			8.7		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=1.5 R_{GEN}=3		7.6		ns
Turn-On Rise Time	t_r			6.7		
Turn-Off Delay Time	$t_{d(off)}$			39		
Turn-Off Fall Time	t_f			8.5		



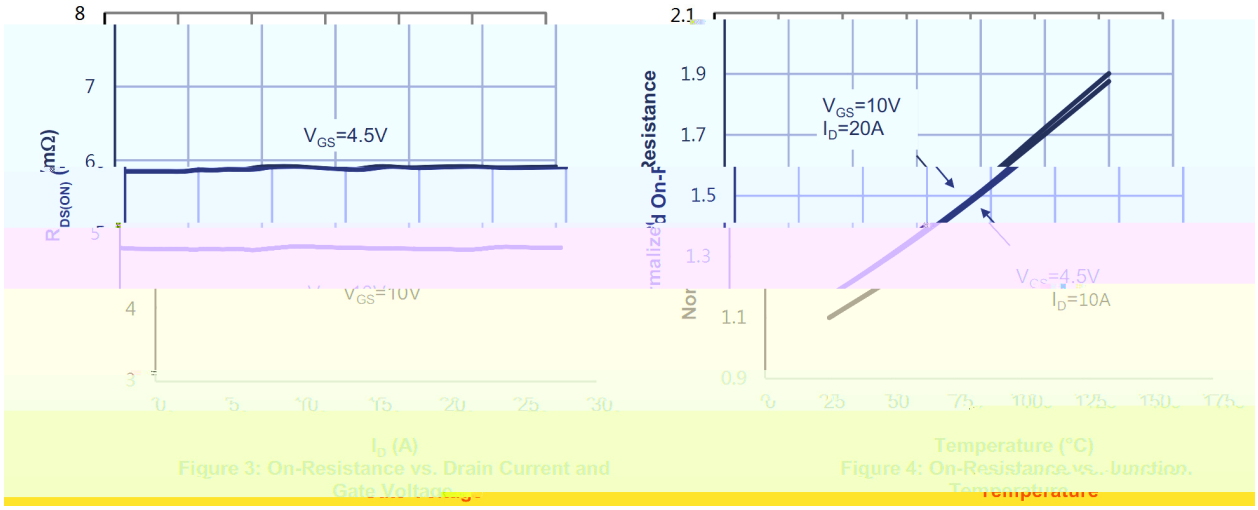


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

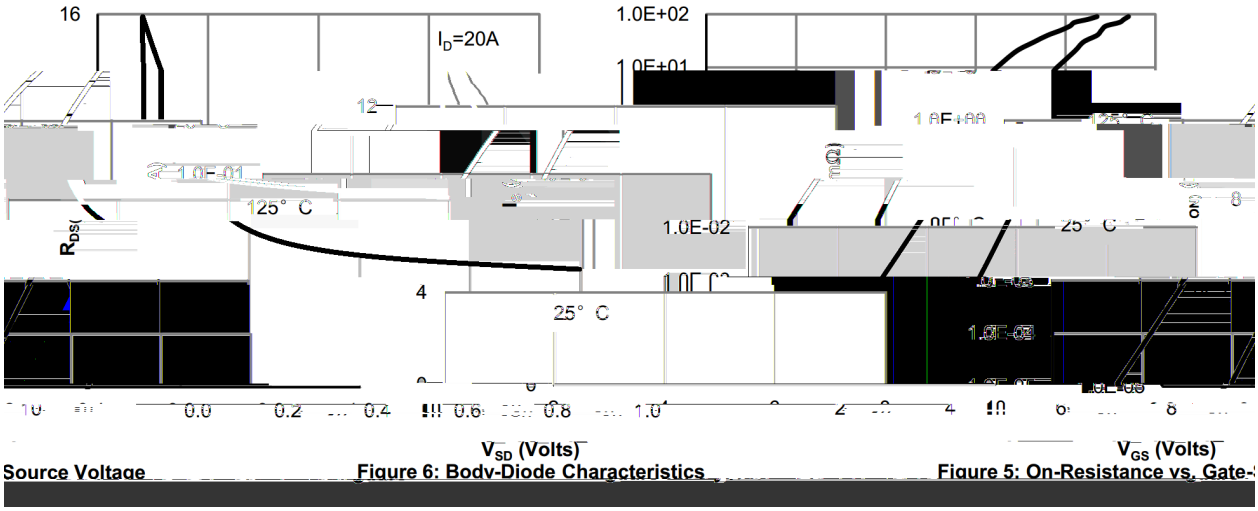
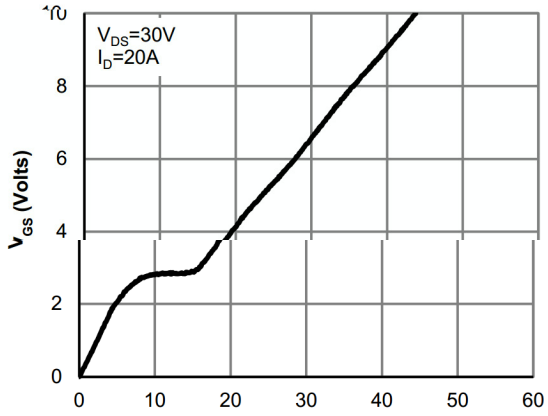


Figure 6: Body-Diode Characteristics

Figure 5: On-Resistance vs. Gate-Source Voltage



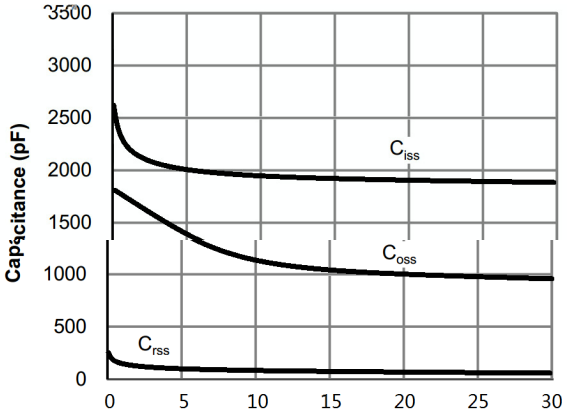
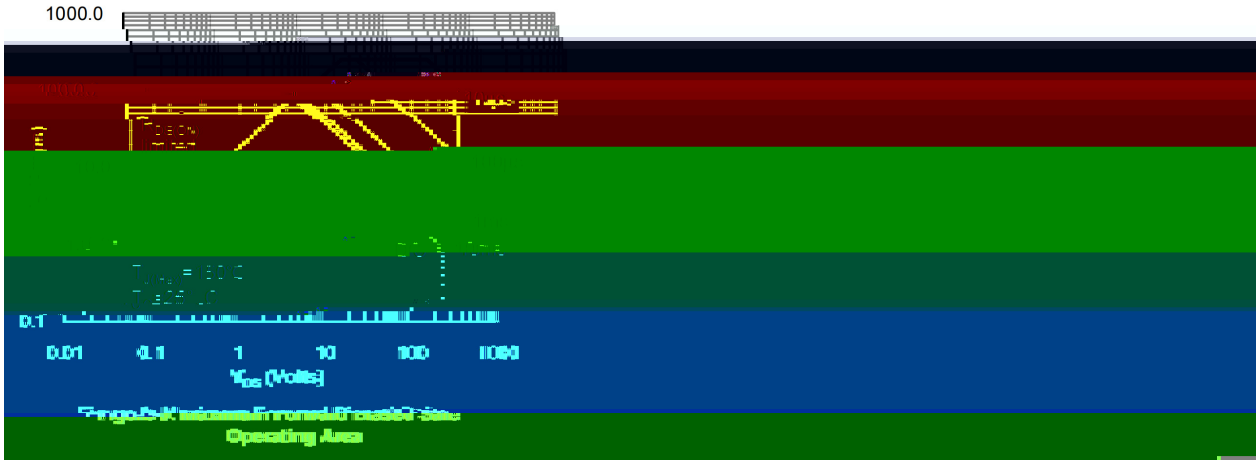
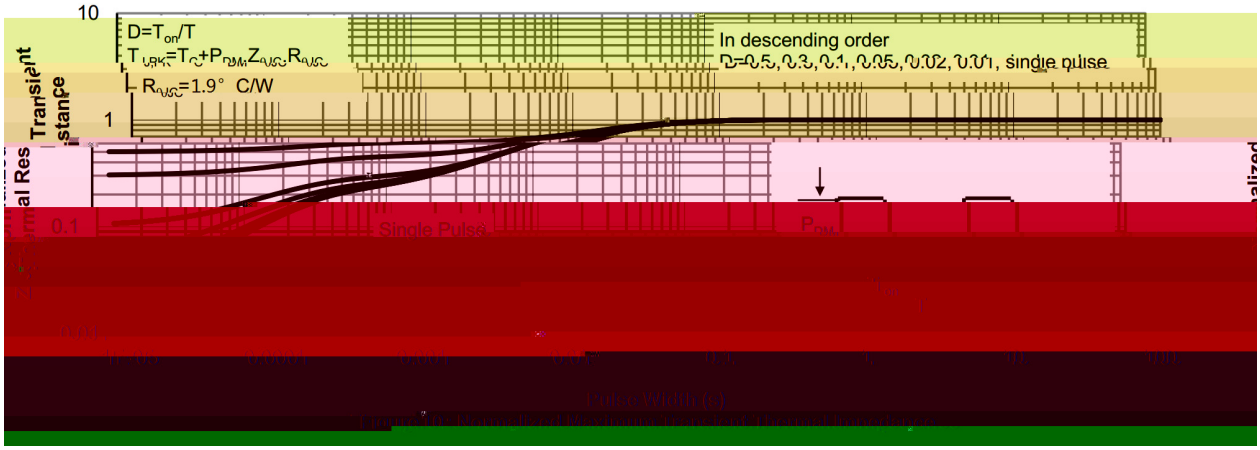


Figure 7: Gate-Charge Characteristics

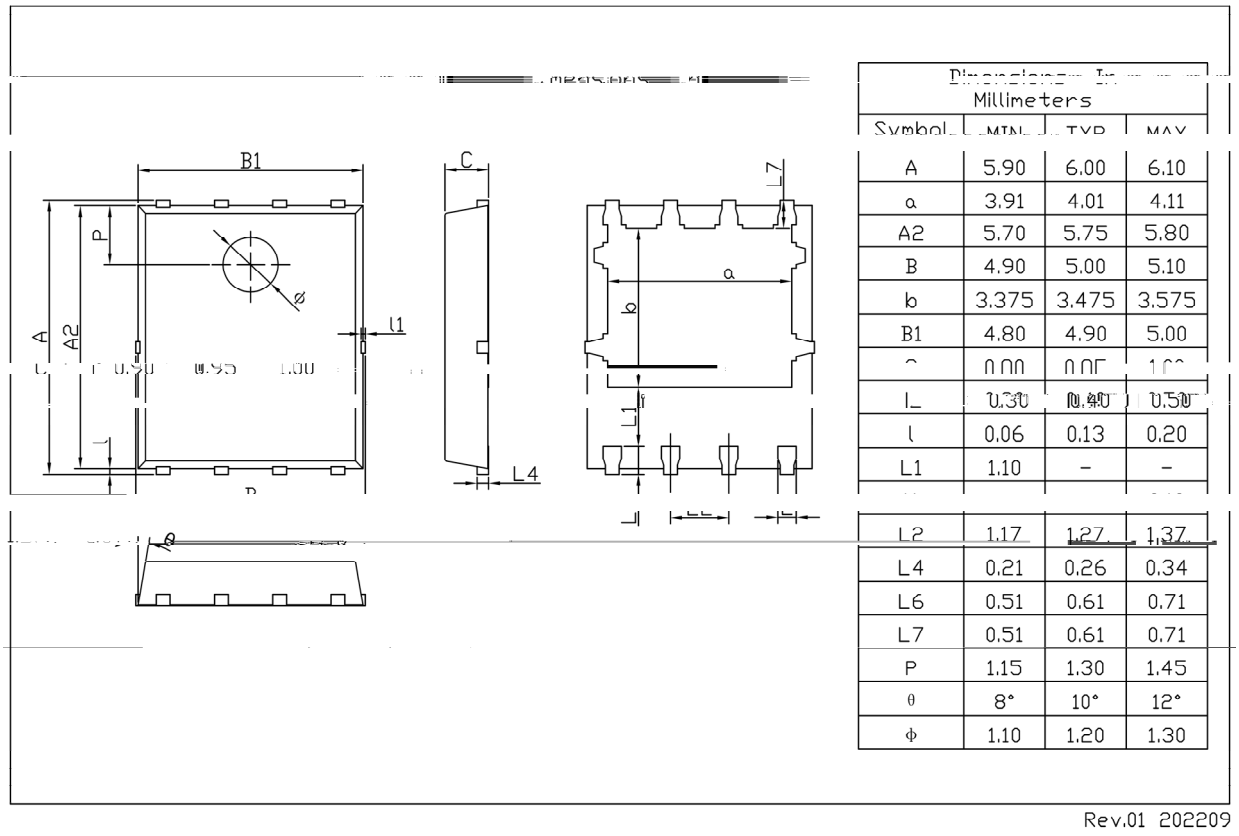
Figure 8: Capacitance Characteristics





PDFN5×6

Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
a	3.91	4.01	4.11
A2	5.70	5.75	5.80
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	0.50
l	0.06	0.13	0.20
L1	1.10	–	–
[illegible]	[illegible]	[illegible]	[illegible]
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.51	0.61	0.71
P	1.15	1.30	1.45
θ	8°	10°	12°
Φ	1.10	1.20	1.30

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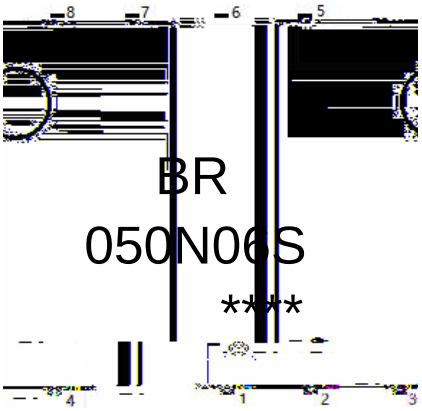
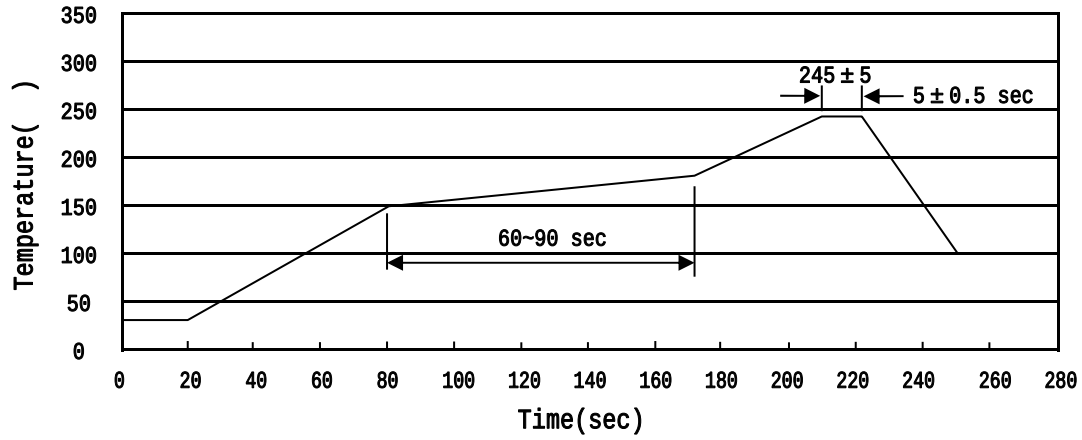


050N06S

Note

BR	Company Code
050N06S	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.

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

/ 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
PDFN5×6	5,000	2	10,000	6	60,000	13''×12	360×360×50	380×335×366