

Rev.A Dec.-2023

PDFN5 6 N

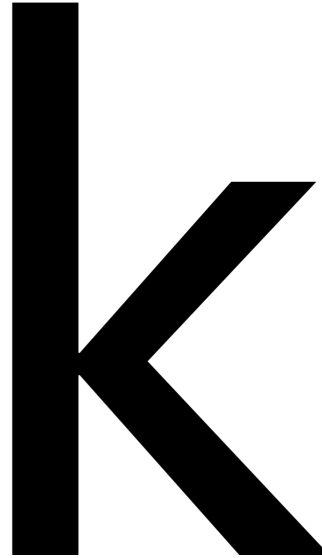
N-Channel MOSFET in a PDFN5×6 Plastic Package.

$V_{DS}(V)=30\text{ V}$ $I_D=95\text{ A}$

$R_{DS(ON)}@10\text{ V}\leq 3.6\text{ m}\Omega$ (Typ.3.5mR)

$R_{DS(ON)}@4.5\text{ V}\leq 6.5\text{ m}\Omega$ (Typ.5.0mR)

HF Product.



Battery Management,High Frequency Point-of-

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Continuous Drain Current		I_D	95	A
Pulsed Drain Current		I_{DM}	175	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	55	W
Avalanche energy($L=0.5\text{mH}$)		E_{AS}	281	mJ
Avalanche Current($L=0.5\text{mH}$)		I_{AS}	26.5	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	25	/ W
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	2.3	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	30	33		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}, V_{GS}=0\text{V}$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1	1.7	3.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		3.5	3.6	m
		$V_{GS}=4.5\text{V}, I_D=10\text{A}$		5.0	6.5	
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		2200		pF
Output Capacitance	C_{oss}			145		
Reverse Transfer Capacitance	C_{rss}			210		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		2.0		Ω

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=20A$		32		nC
Total Gate Charge	$Q_{g(4.5V)}$			15		
Gate Source Charge	Q_{gs}			5.2		
Gate Drain Charge	Q_{gd}			6.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\Omega$ $R_{GEN}=3\Omega$		8.5		ns
Turn-On Rise Time	t_r			4.2		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5.7		

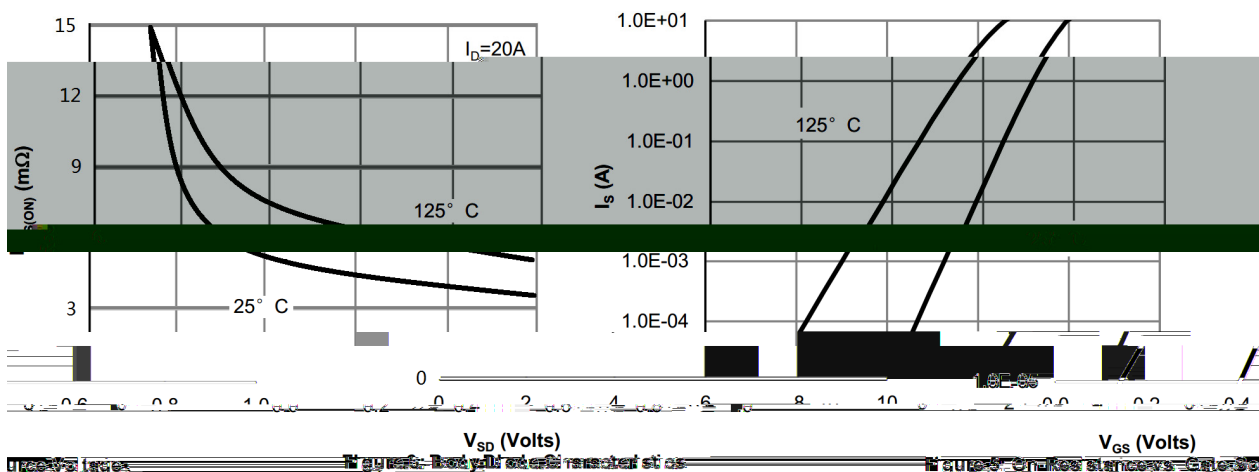
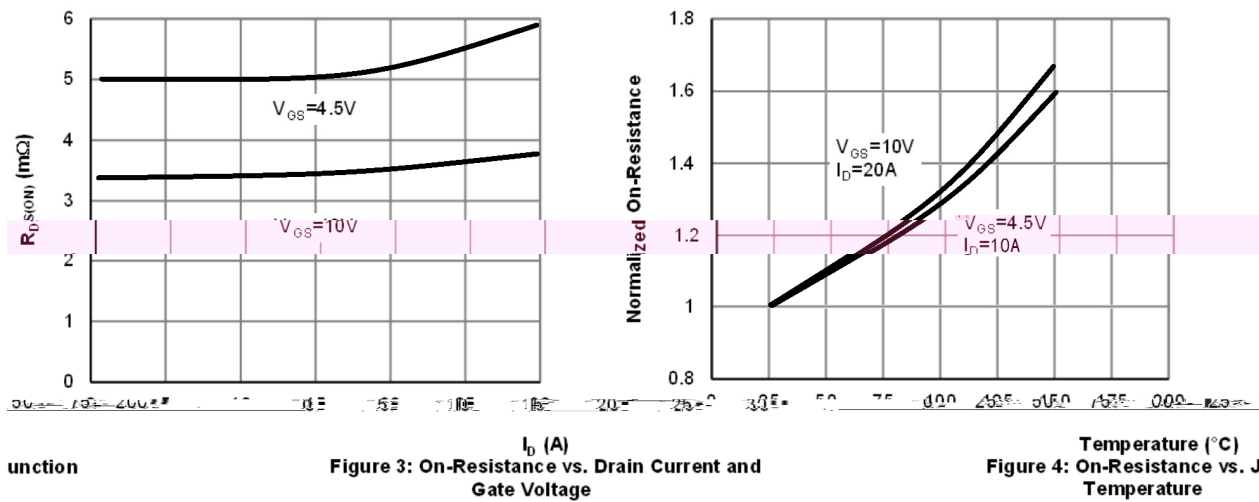
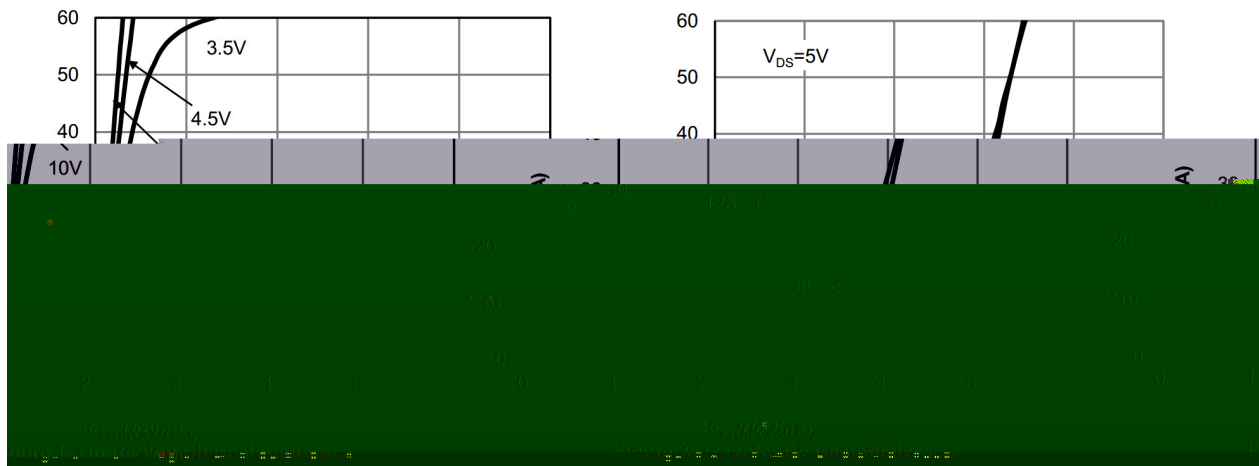


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. J Temperature

Figure 5: On-Resistance vs. Gate Voltage

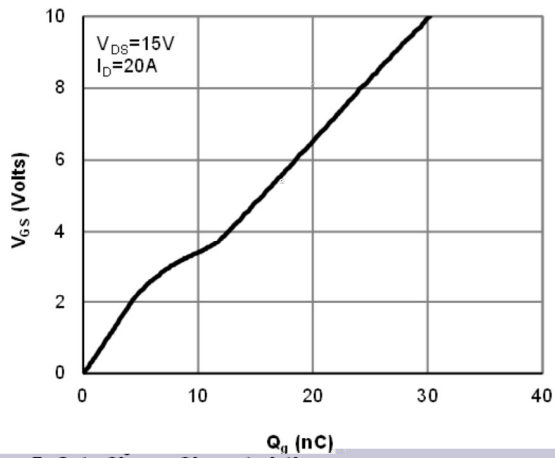


Figure 7: Gate-Charge Characteristics

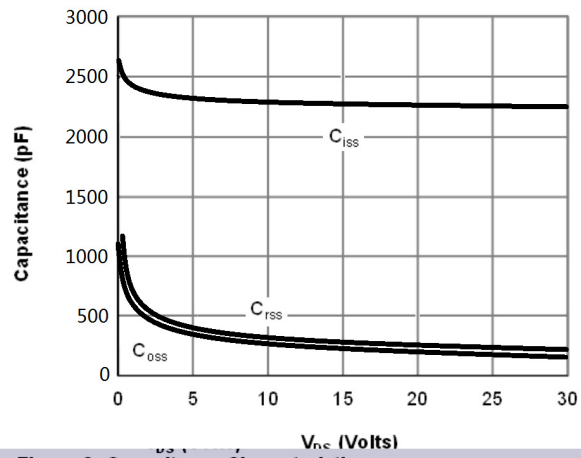


Figure 8: Capacitance Characteristics

Fig

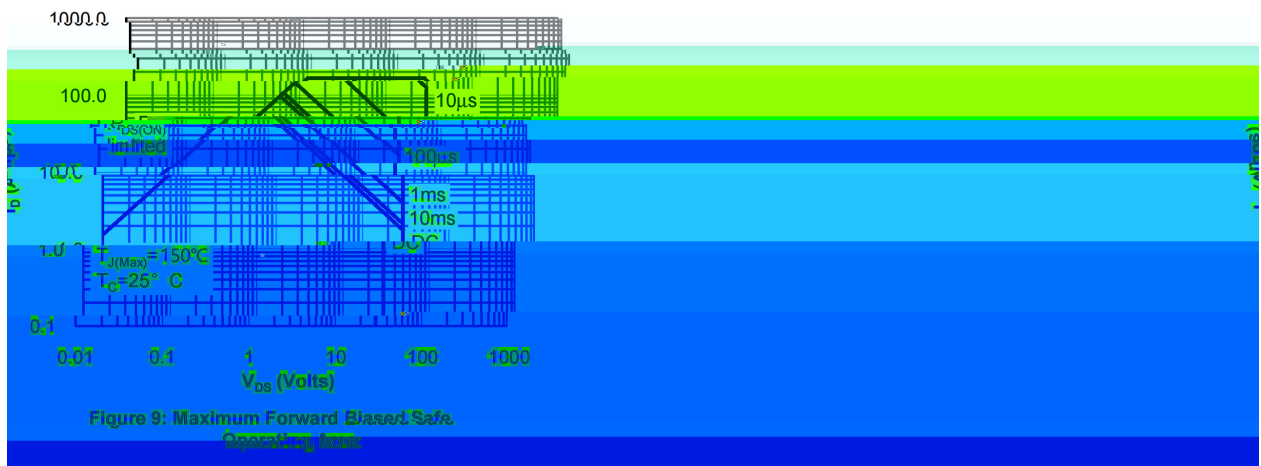


Figure 9: Maximum Forward Biased Safe Operating Area

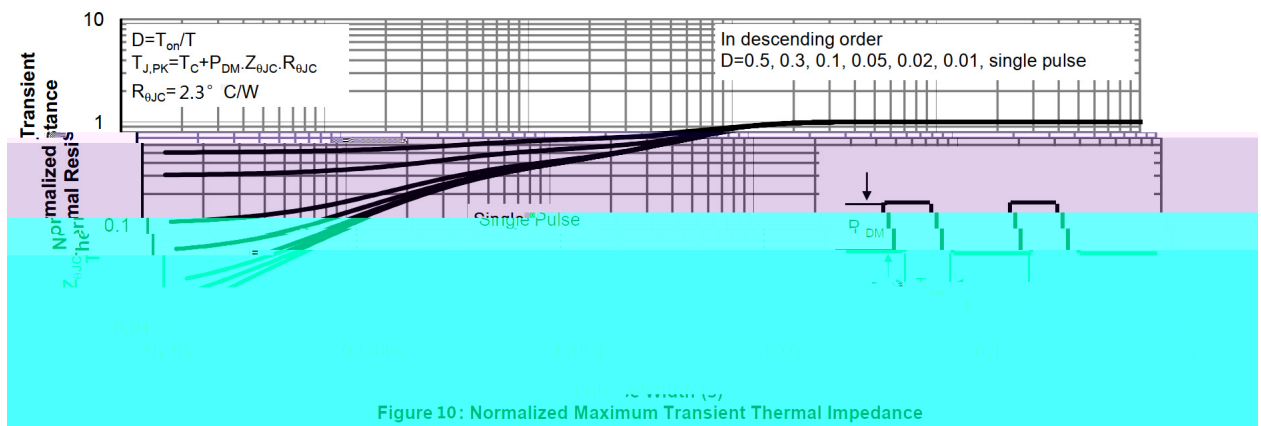
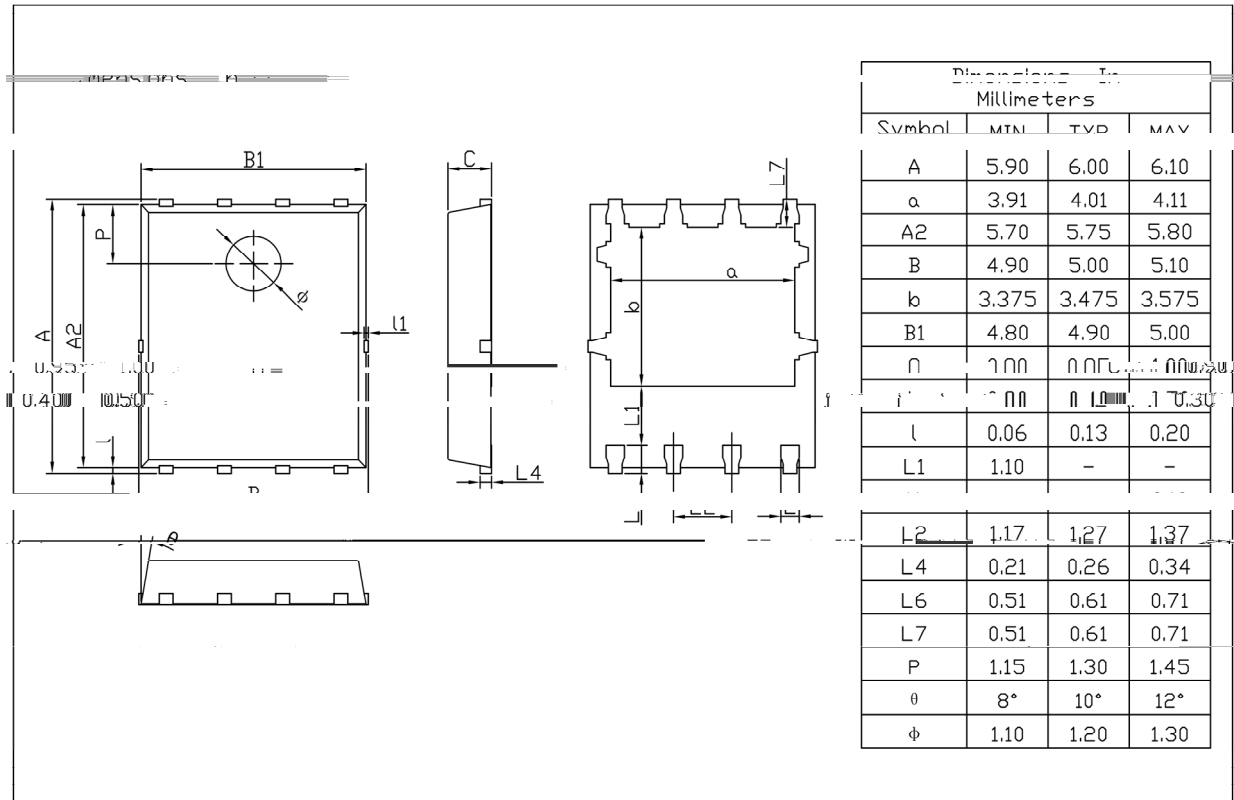


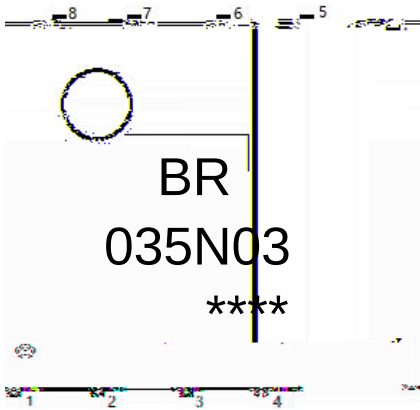
Figure 10: Normalized Maximum Transient Thermal Impedance

PDFN5 X6

Unit:mm



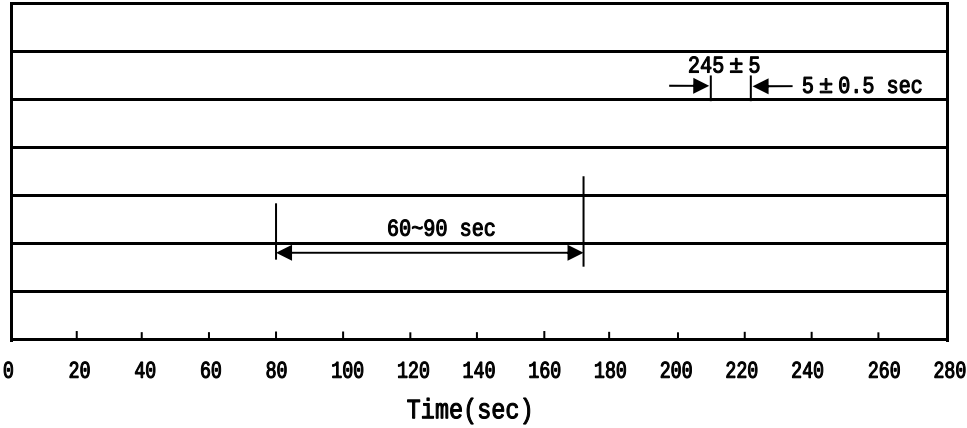
Rev.01 202209



035N03

Note

BR	Company Code
035N03	Product Type Code
****:	Lot No. Code, code change with Lot No



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 mm ³)		
	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