PDFN5×6 P

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

V_{DS} (V) = -30V I_D =-46A (V_{GS} = ±20V)

$R_{DS(ON)}$@-10V≤12mΩ(Typ.10.5mΩ)

$R_{DS(ON)}$@-4.5V≤18mΩ(Typ.16.5mΩ)

HF Product.

/ Absolute Maximum Ratings(T_a=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	-30	V
Drain Current		I_D(Tc=25)	-24	A
Drain Current - Pulsed		I_{DM}	-127	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	17	A
Single Pulsed Avalanche Energy		E_{AS}	151	mJ
Power Dissipation		P_D(Tc=25)	38	W
Operating and Storage Temperature Range		T_J,T_{stg}	-55 to 150	
Junction-to-Ambient	t ≤ 10	$R_{\theta JA}$	25	/W
Junction-to-Ambient	Steady-State		55	
Junction-to-Case	Steady-State	$R_{\theta JC}$	3.3	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=-250μA V_{GS}=0V	-30	-36		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V V_{GS}=0V			-1	μA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V V_{GS}=±20V			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-1.0	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V I_D=-20A		10.5	12	mΩ
		V_{GS}=-4.5V I_D=-10A		16.5	18	
Diode Forward Voltage	V_{SD}	I_S=-1A V_{GS}=0V			-1.2	V
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		7.5	10	Ω
Input Capacitance	C_{iss}	V_{GS}=0V V_{DS}=-25V f=1MHz		2100		pF
Output Capacitance	C_{oss}			340		
Reverse Transfer Capacitance	C_{rss}			210		
Total Gate Charge	Q_g(10V)	V_{GS}=-10V V_{DS}=-15V I_D=-17A		35		nC
Total Gate Charge	Q_g(4.5V)			17		
Gate-Source Charge	Q_{gs}			5.7		
Gate-Drain Charge	Q_{gd}			8.8		
Turn-on Delay Time	$t_{d(ON)}$	V_{GS}=-10V V_{DS}=-15V R_L=0.9Ω R_{GEN}=3Ω		11		ns
Turn-on Rise Time	t_r			7.5		
Turn-off Delay Time	$t_{d(OFF)}$			43.5		
Turn-off Fall Time	t_f			17.5		

/ Electrical Characteristic Curve

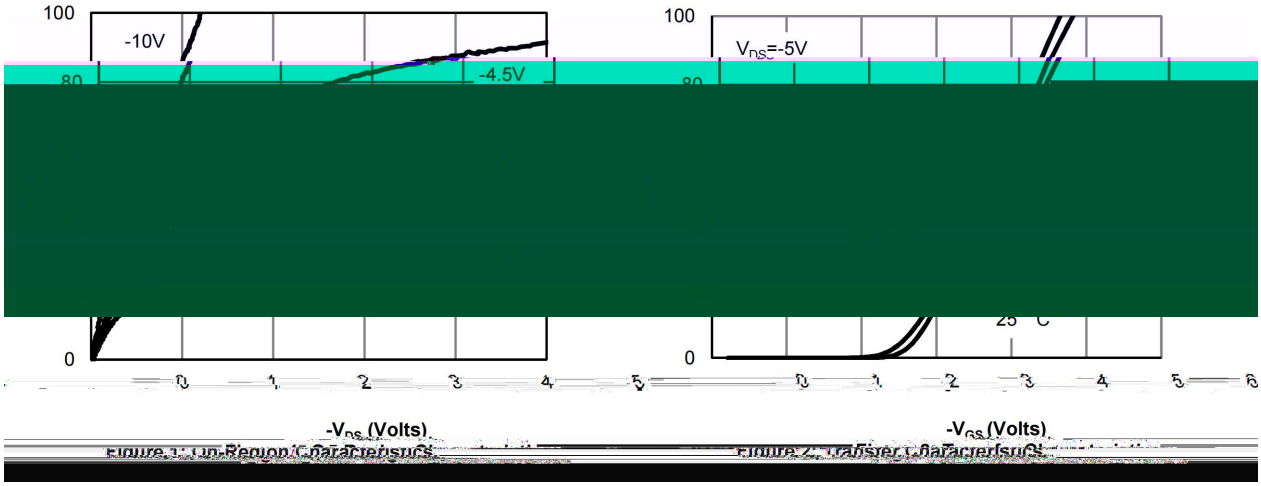


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

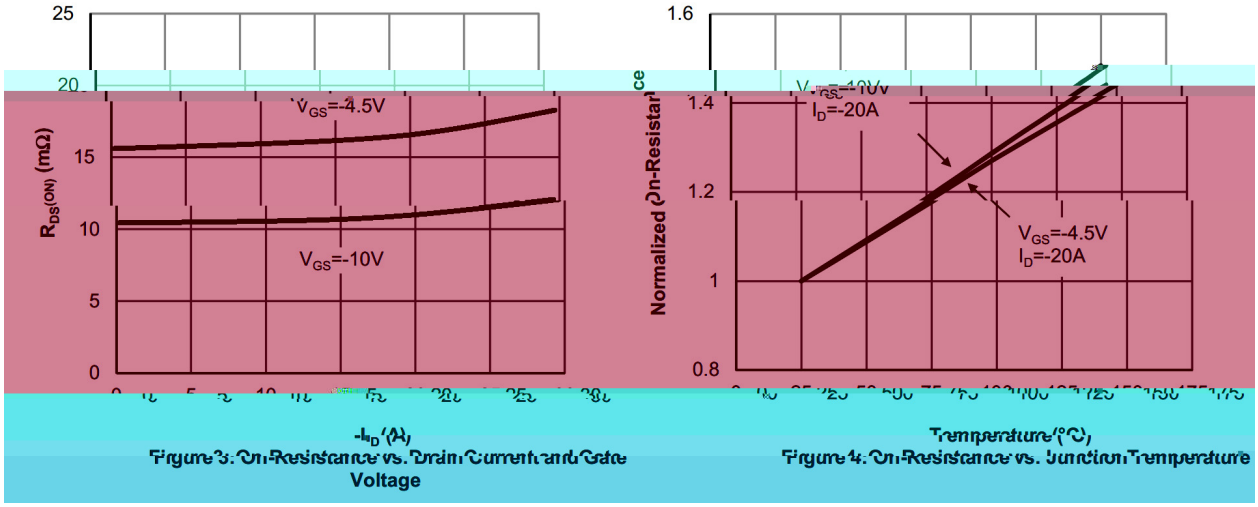
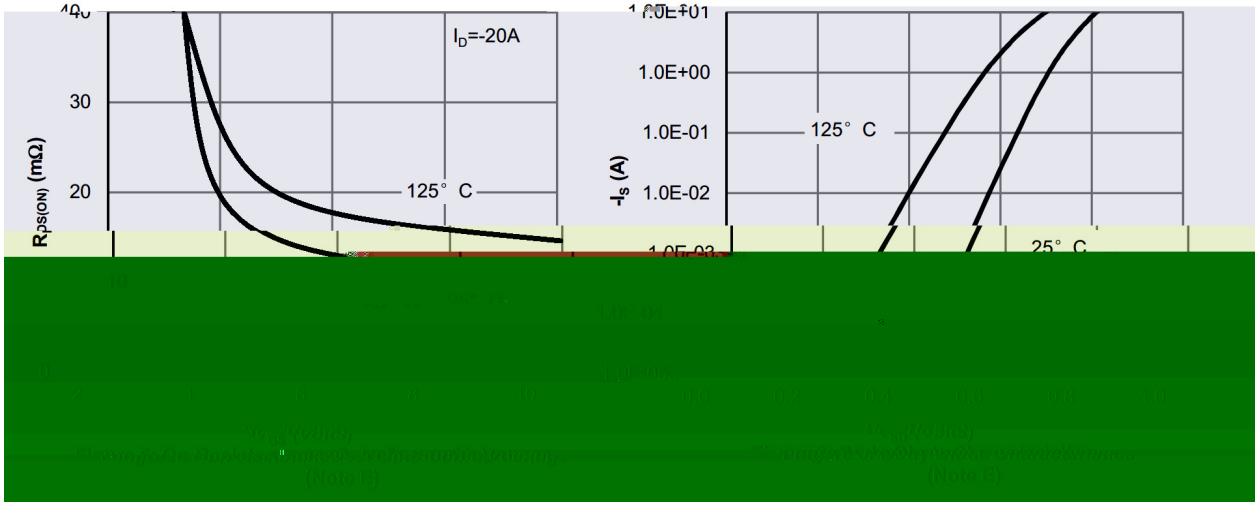
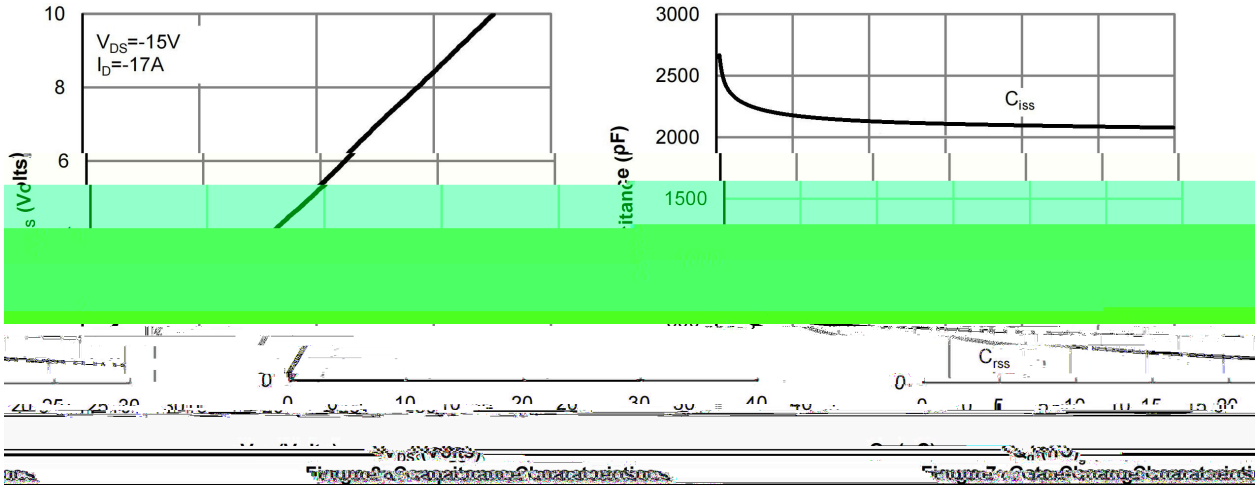


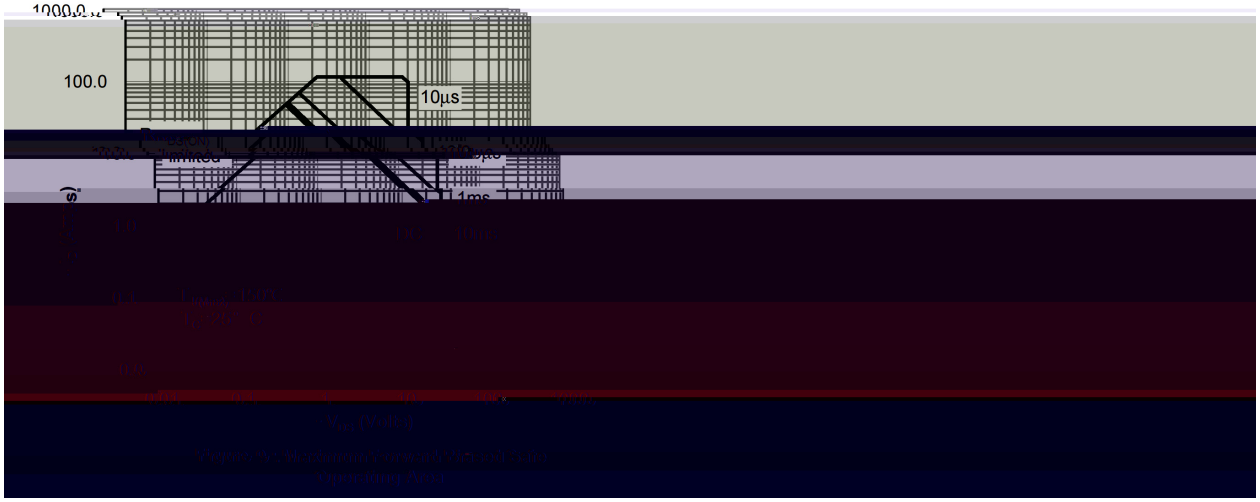
Figure 3: On-Resistance vs. Drain Current and Gate Voltage

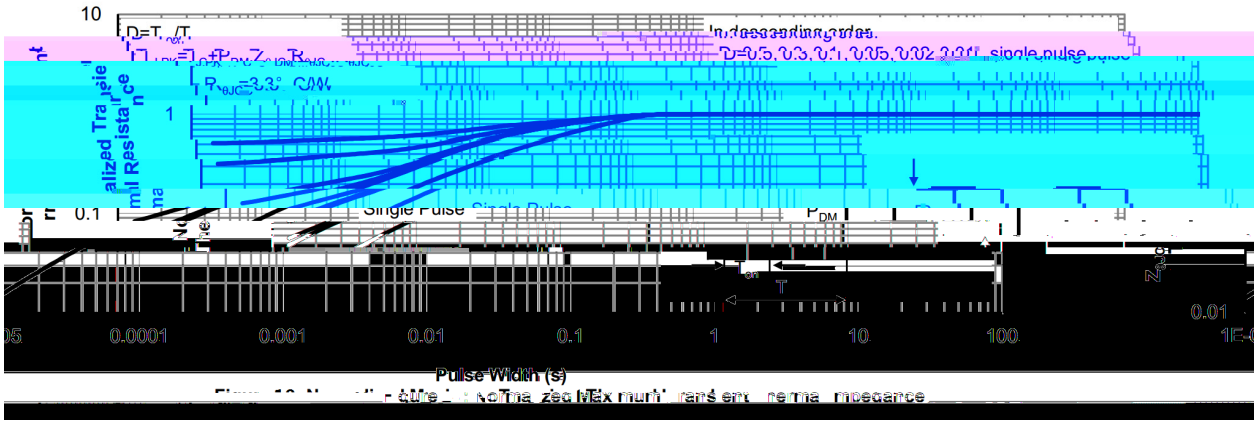
Figure 4: On-Resistance vs. Junction Temperature



/ Electrical Characteristic Curve

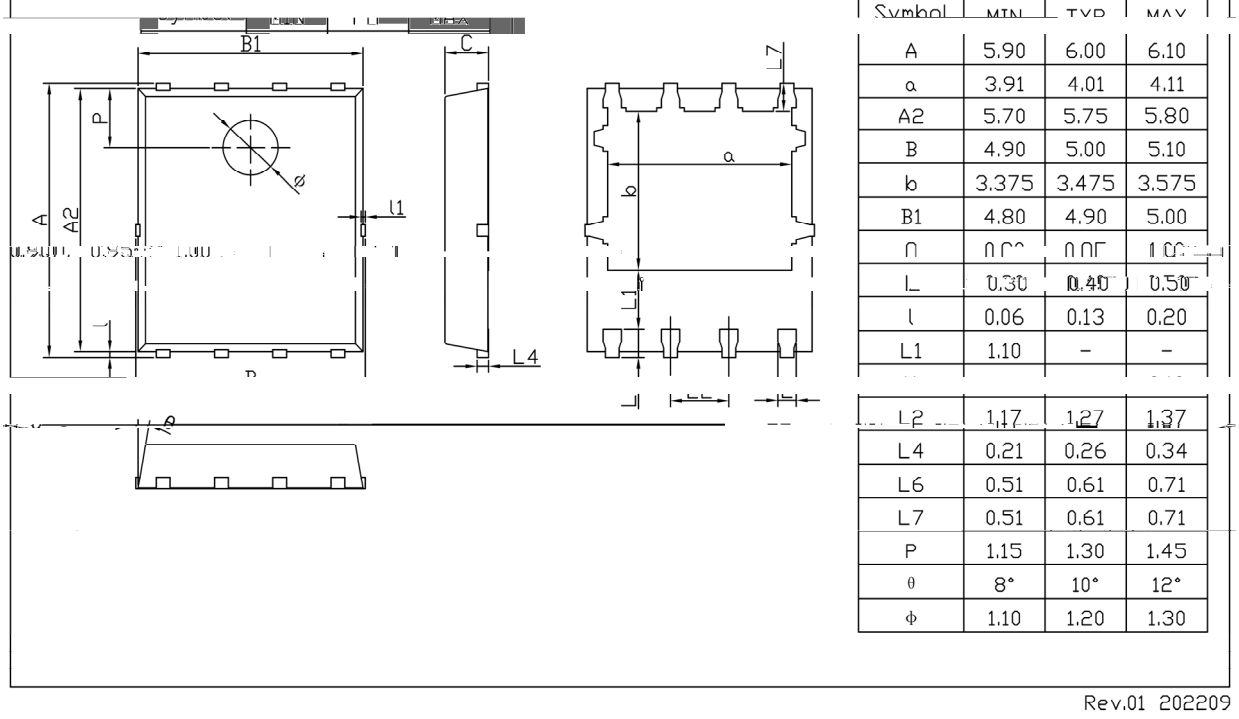






/ Package Dimensions

PDFN5×6 Unit:mm



Symbol	Millimeters 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]	0.30	0.40	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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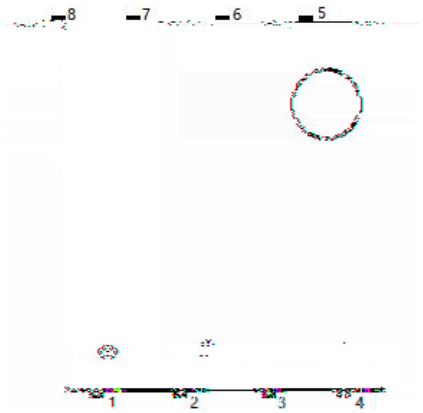
/ Marking Instructions



( ) / 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)
/	/	/	/