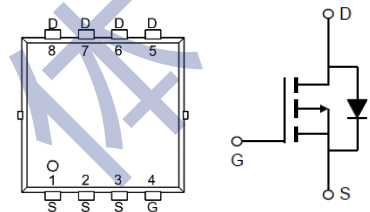
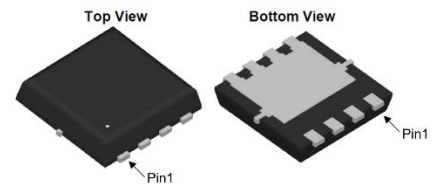


**-30V<sub>DS</sub>/±25V<sub>GS</sub> P-Channel Advanced Mode MOSFET****Features**

- $V_{DS}=-30V, I_D=-40A$
- $R_{DS(ON)}=11m\Omega$  (TYP.)  $V_{GS}=-10V, I_D=-10A$
- $R_{DS(ON)}=15m\Omega$  (TYP.)  $V_{GS}=-4.5V, I_D=-5A$
- Fast Switching
- Low On-Resistance
- Halogen and Antimony Free, Rohs compliant

**PDFN3030****Applications**

- Switch switching
- Power management in portable/desktop PCs

**Ordering Information**

Temperature Range	package	Orderable Device	Package Qty.
-55℃~+125℃	PDFN3030 Pb-Free	AET3152AP	5000pcs/Reel

**Absolute Maximum Ratings** ( $T_C=25^\circ C$ , unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±25	V
Continuous Drain Current ( $T_C=25^\circ C$ )	$I_D$	-40	A
Continuous Drain Current ( $T_C=100^\circ C$ )		-28	A
Pulsed Drain Current	$I_{DM}$	-160	A
Avalanche Current ( $L=0.3mH$ )	$I_{AS}$	22.5	A
Avalanche Energy, Single Pulsed	$E_{AS}$	75	mJ
Maximum Power Dissipation ( $T_C=25^\circ C$ )	$P_D$	39	W
Maximum Power Dissipation ( $T_C=100^\circ C$ )		15	W
Operating, Storage Temperature Range	$T_J, T_{STG}$	-55~150	℃

**Thermal Characteristics**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	-	3.2	-	℃/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	-	56	-	℃/W



## Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	$\mu A$
Gate -Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 25V, V_{DS}=0V$	-	-	$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.1	-1.5	-1.9	V
Drain-Source On-stage Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-10A$	-	11	14.5	m $\Omega$
		$V_{GS}=-4.5V, I_D=-5A$	-	15	19	

## Dynamic Characteristics

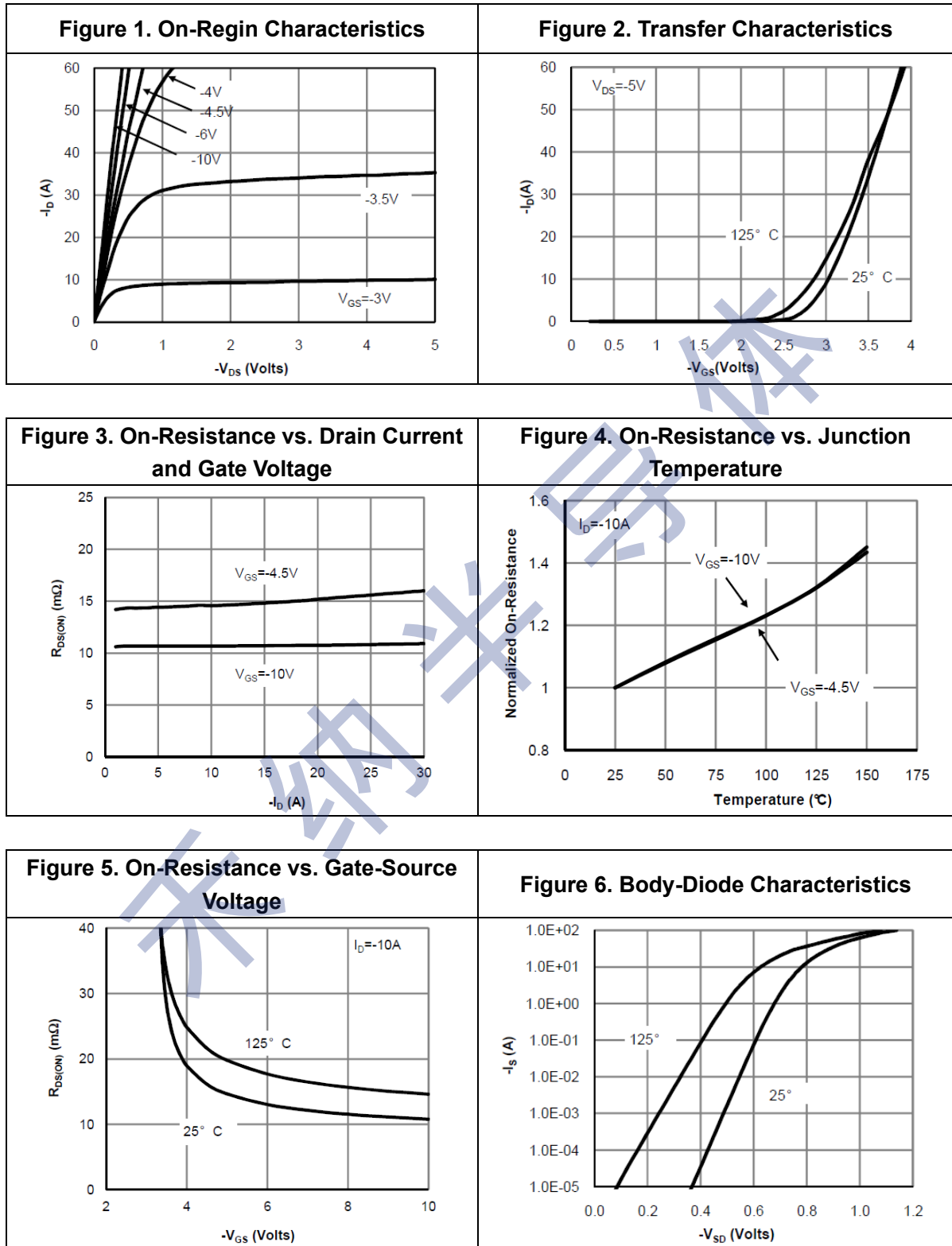
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	$C_{iss}$	$V_{DS}=-15V$	-	1230	-	pF
Output capacitance	$C_{oss}$	$V_{GS}=0V$	-	160	-	
Reverse transfer capacitance	$C_{rss}$	$f=1MHz$	-	145	-	
Gate Resistance	$R_g$	$f=1MHz$	-	4.8	-	$\Omega$
Total Gate Charge	$Q_g$	$V_{DS}=-15V$	-	26.4	-	nC
Gate Source Charge	$Q_{gs}$	$V_{GS}=-10V$	-	6	-	
Gate Drain Charge	$Q_{gd}$	$I_D=-10A$	-	4.3	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=-10V$	-	18	-	ns
Rise time	$t_r$	$V_{DS}=-15V$	-	22	-	
Turn-off delay Time	$t_{d(off)}$	$R_L=1\Omega$	-	55	-	
Fall time	$t_f$	$R_G=3\Omega$	-	42	-	

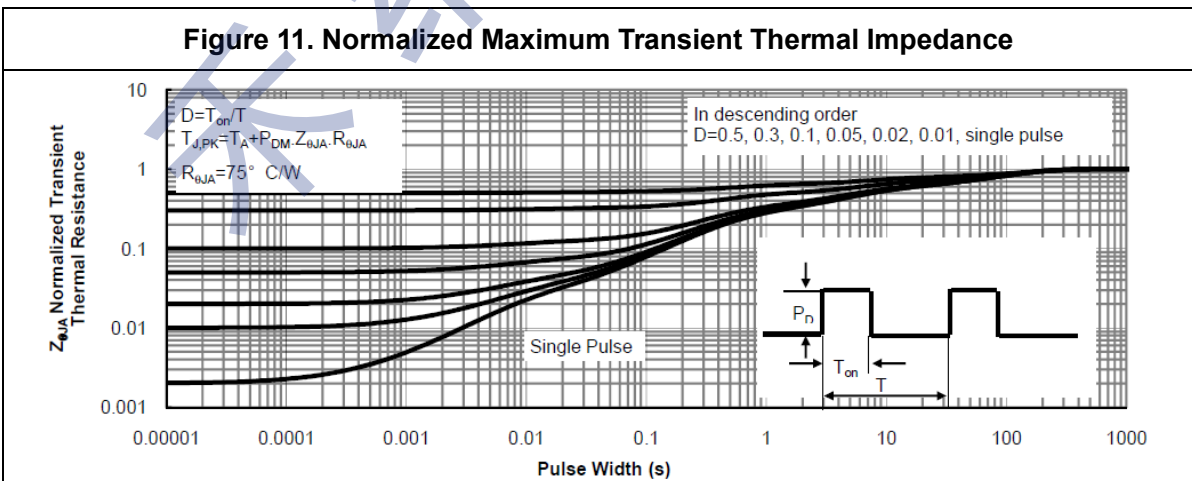
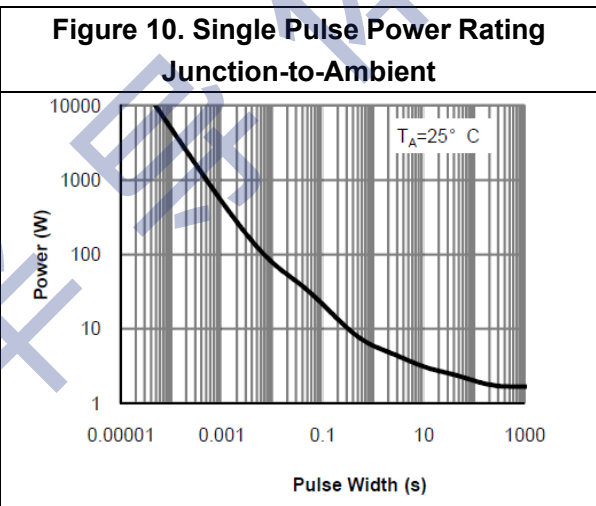
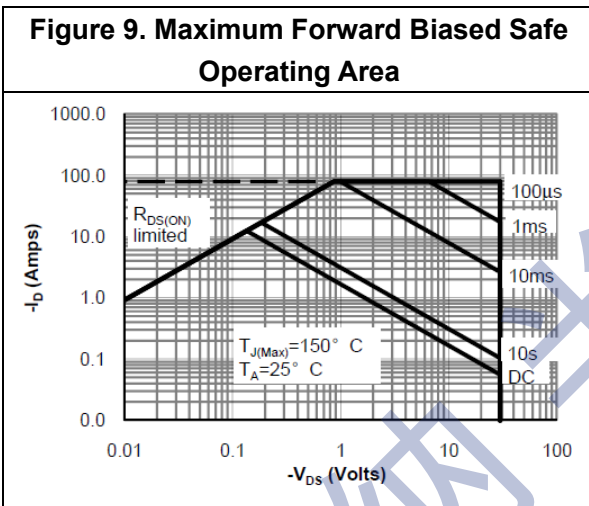
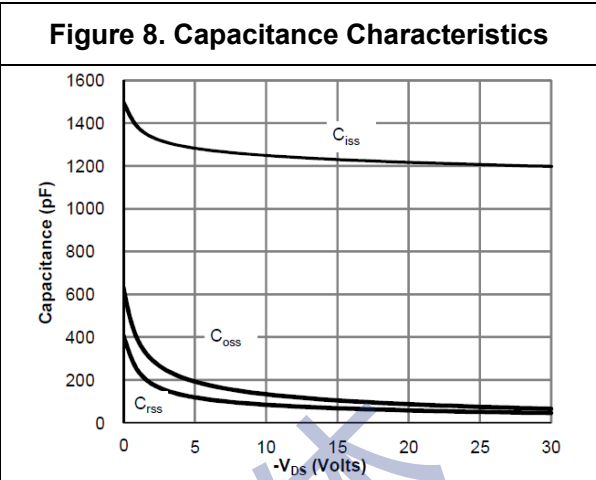
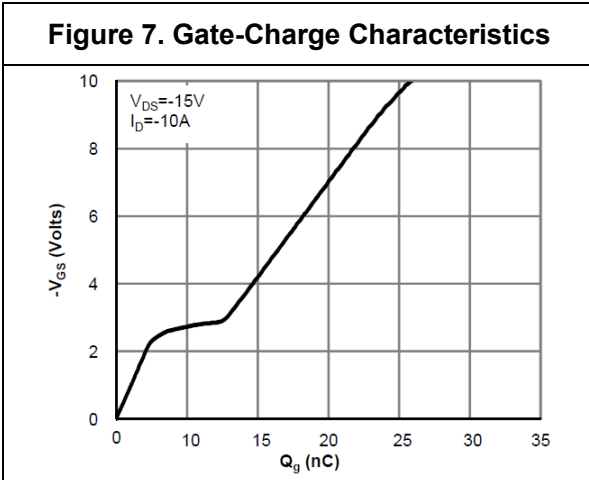
## Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V, I_{SD}=-1A$	-	-0.75	-1	V
Reverse Recovery Time	$t_{rr}$	$V_{GS}=0V, I_{SD}=-10A$	-	32	-	ns
Reverse Recovery Charge	$Q_{rr}$	$d_i/d_t=100A/\mu s$	-	28	-	nC



# Electrical Characteristics Diagrames

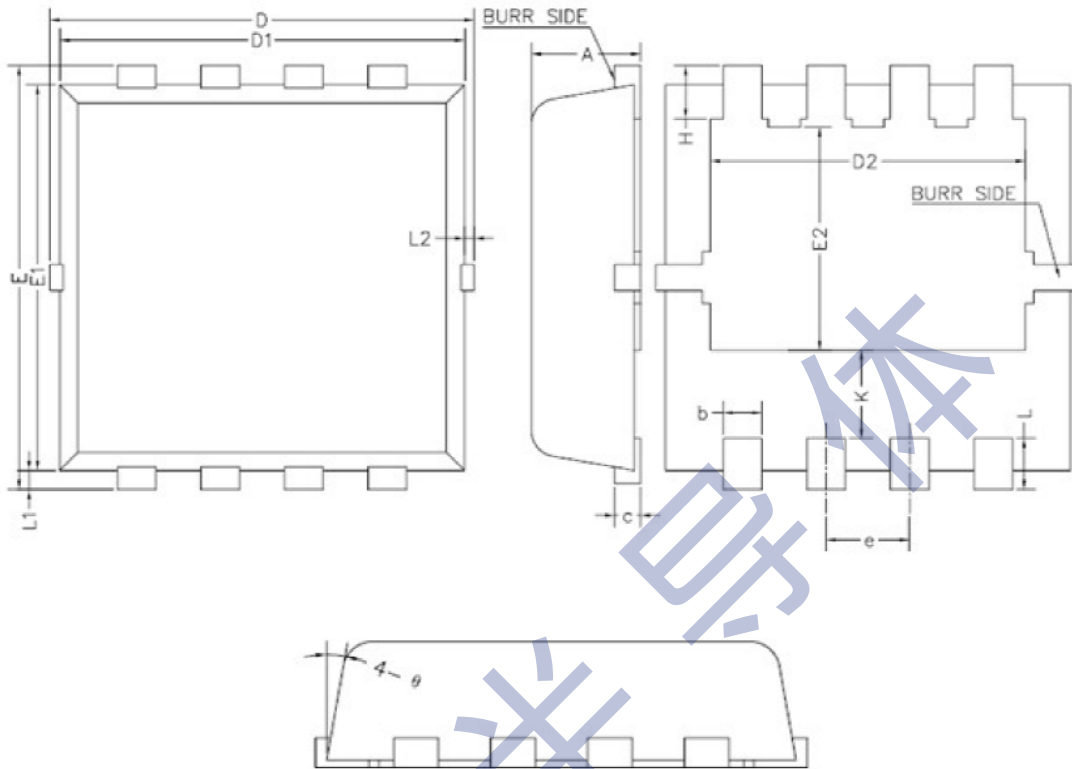






# Physical Dimensions

## PDFN3030



符号	尺寸 (mm)			符号	尺寸 (mm)		
	最小值	典型值	最大值		最小值	典型值	最大值
A	0.70	0.80	0.90	E1	2.90	3.00	3.10
b	0.25	0.30	0.35	E2	1.64	1.74	1.84
c	0.14	0.15	0.20	H	0.32	0.42	0.52
D	3.10	3.30	3.50	K	0.59	0.69	0.79
D1	3.05	3.15	3.25	L	0.25	0.40	0.55
D2	2.35	2.45	2.55	L1	0.10	0.15	0.20
e	0.55	0.65	0.75	L2	-	-	0.15
E	3.10	3.30	3.50	θ	8°	10°	12°

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