

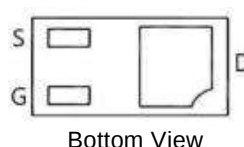
➤ General Description

This PAN6035EDN N-Channel enhancement mode power field effect transistor is the high density trench technology and this advanced technology can provide excellent $R_{ds(On)}$ performance and efficiency for power switching and load switching application., this device also comply with the RoHS and Green Product requirement with full function reliability approved.

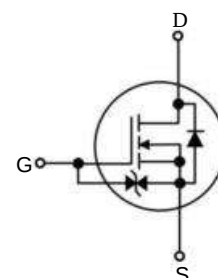
➤ Feature

- Low Offset (Error) Voltage
- Low-Voltage Operation
- High-Speed Circuits
- ESD Protection
- Low Battery Voltage Operation

➤ DFN1.0X0.6-3L



D	Drain
G	Gate
S	Source



➤ Application

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Smart Phones, Pagers

➤ Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	350	mA
Peak Drain Current	I_{DM}	1.2	A
Total Power Dissipation	P_{tot}	223	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	560	$^{\circ}C/W$
Operating and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150	$^{\circ}C$

Note :

1. $R_{\theta JA}$ is the sum of the junction to case and case to ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drainpins. mounted on a 1 inch square pad of copper

➤ Electrical Characteristics ($T_A=25^\circ C$ Unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Static						
Drain Source Breakdown Voltag	I _D =250μA	BV _{DSS}	60	-	-	V
Zero Gate Voltage Drain Current	V _{DS} =48V	I _{DSS}	-	-	1	μA
Gate Source Leakage Current	V _{GS} =±20V	I _{GSS}	-	-	±10	μA
Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	V _{GS(th)}	0.8	-	1.25	V
Static Drain Source On-Resistance	V _{GS} =10V, I _D =500mA	R _{DS(on)}	-	-	1.4	Ω
	V _{GS} =4.5V, I _D =200mA		-	-	2.2	
	V _{GS} =2.5V, I _D =100mA		-	-	4.0	
Dynamic						
Gate Resistance	V _{DS} =0, V _{GS} =0, f=1MHz	R _g	-	100	-	Ω
Total Gate Charge	V _{DS} =25V, I _D =1A, V _{GS} =10V	Q _g	-	1.9	-	nC
Gate-Source Charge		Q _{gs}	-	0.5	-	nC
Gate-Drain Charge		Q _{gd}	-	0.2	-	nC
Input Capacitance	V _{GS} =0V, V _{DS} =25V, f=1MHz	C _{iss}	-	32.0	-	pF
OutputCapacitance		C _{oss}	-	10.8	-	pF
Reverse Transfer Capacitance		C _{rss}	-	7.8	-	pF
Turn-On Delay Time	V _{GS} =10V, V _{DS} =30V, R _G =25Ω , I _D =0.5A,R _L =60Ω	t _{d(on)}	-	3.8	-	ns
Turn-On Rise Time		t _r	-	3.4	-	ns
Turn-Off Delay Time		t _{d(off)}	-	19.0	-	ns
Turn-Off Fall Time		t _f	-	12.0	-	ns
Drain-Source Body Diode						
Diode Forward Voltage	V _{GS} =0V, I _S =500mA	V _{SD}	-	-	1.5	V

➤ Typical Characteristics

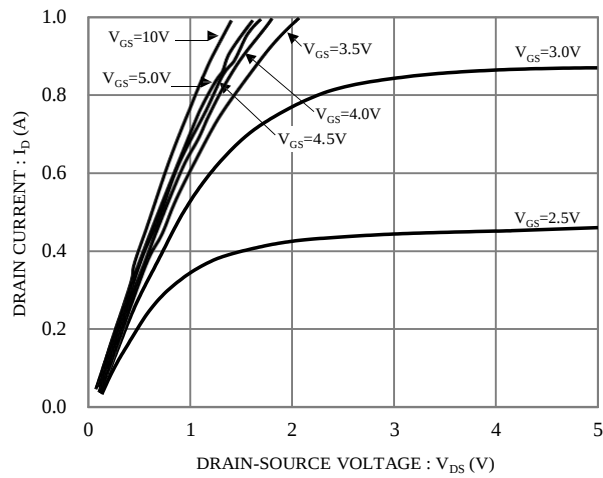


Fig.1 Typical Output Characteristics

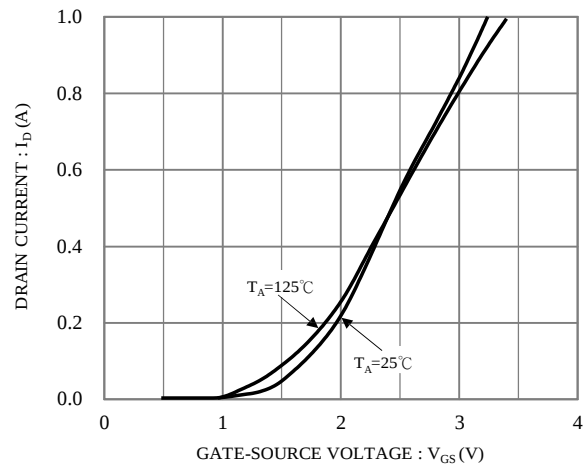


Fig.2 Typical Transfer Characteristics

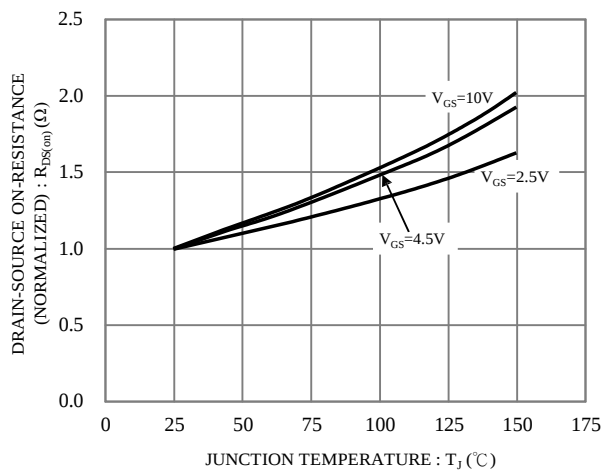


Fig.3 On-Resistance vs Junction Temperature

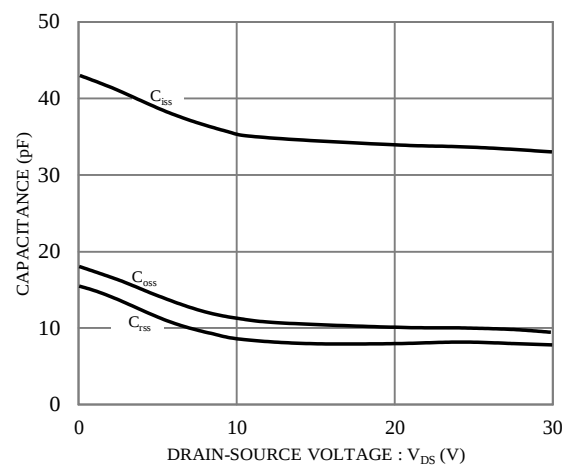


Fig.4 Capacitance vs Drain-Source Voltage

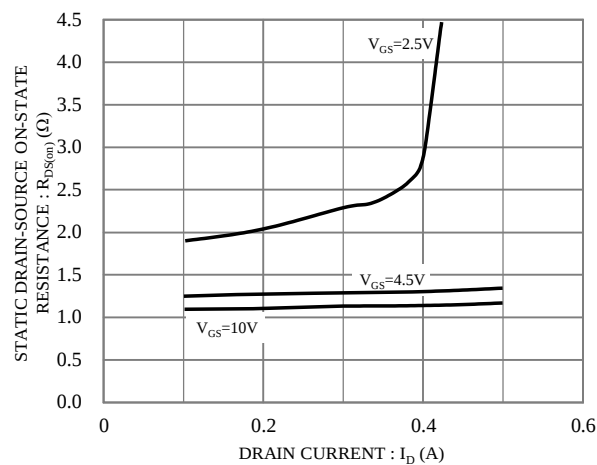


Fig.5 Static Drain-Source On-State Resistance vs. Drain current

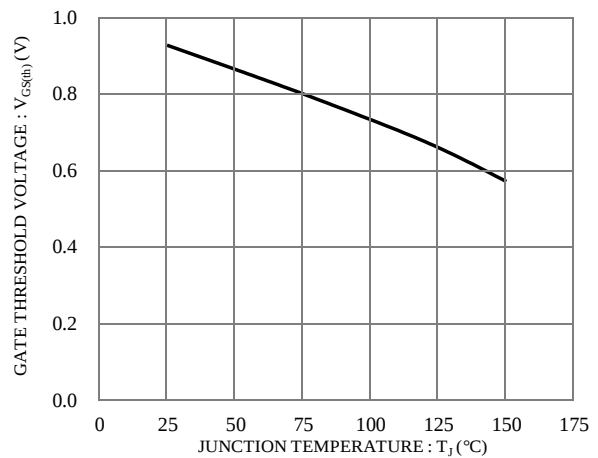


Fig.6 Gate Threshold Voltage vs. Junction Temperature

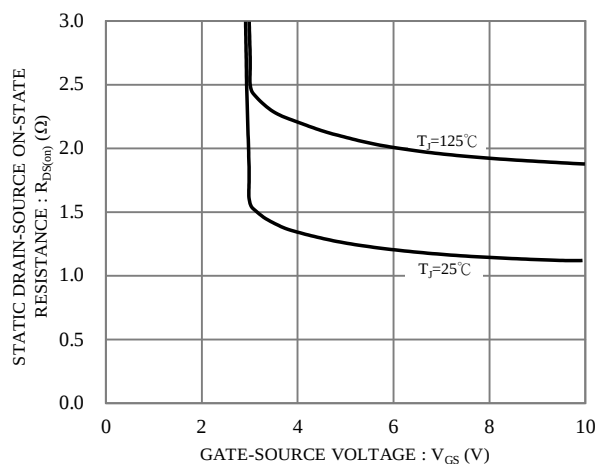


Fig.7 Static Drain-Source On-State Resistance vs Gate-Source Voltage

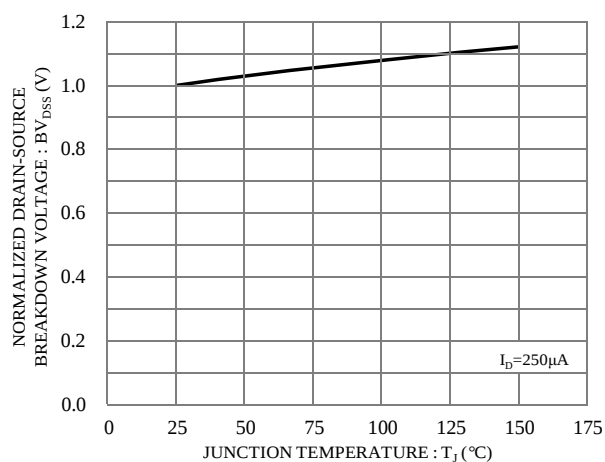


Fig.8 Breakdown Voltage vs Junction Temperature

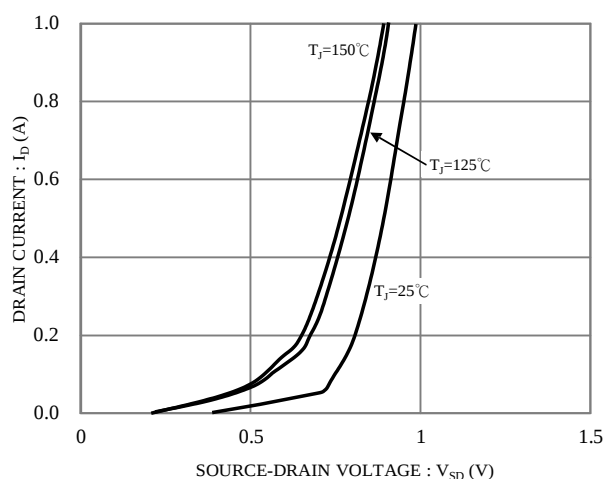


Fig.9 Diode Forward Voltage vs Drain Current

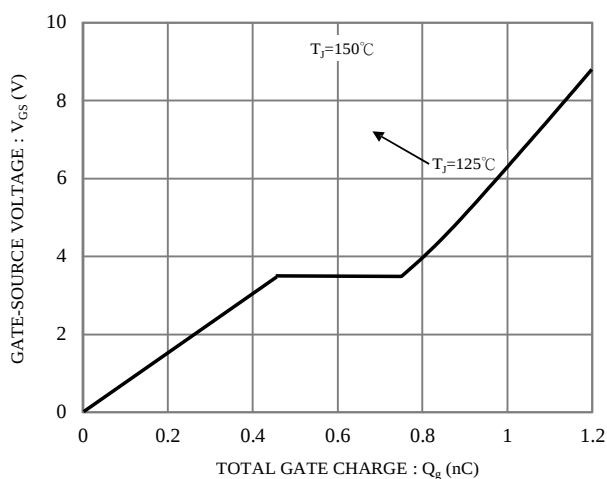


Fig.10 Gate Charge Characteristics

➤ Recommand IR Reflow Soldering Thermal Profile

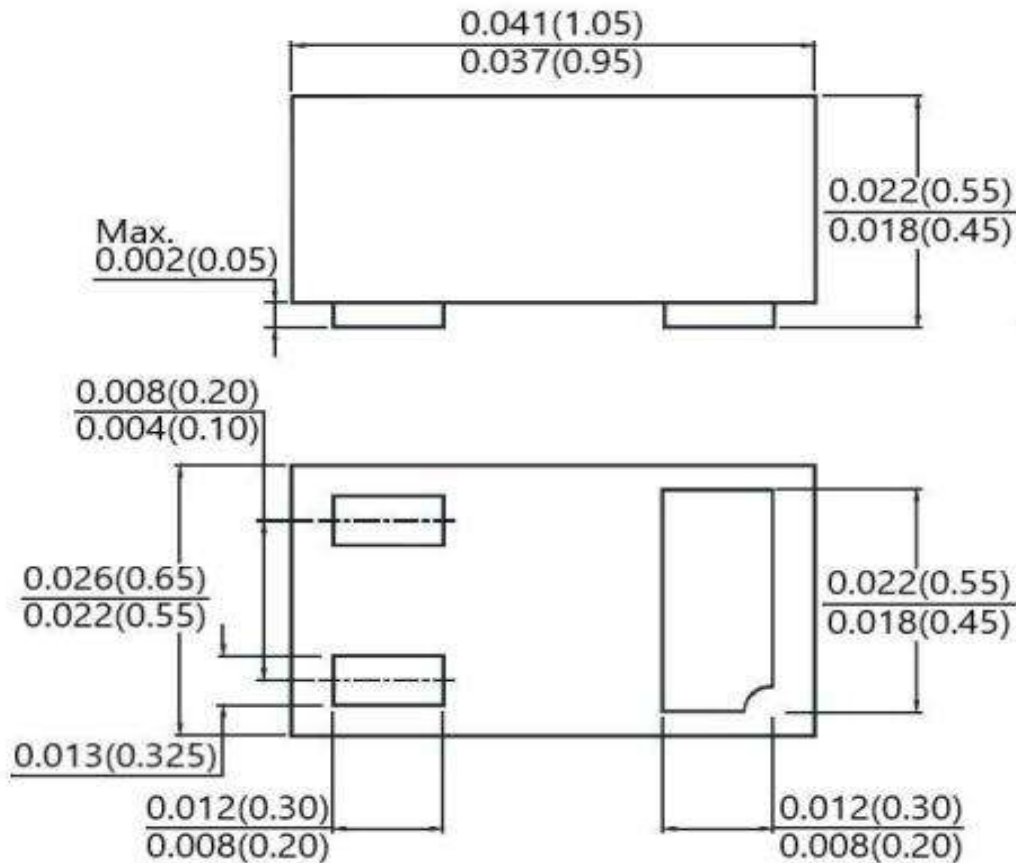


Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T_{Smin})	150°C
Temperature Max. (T_{Smax})	200°C
Time (t_S) from (T_{Smin} to T_{Smax})	60-120 seconds
Average Ramp-up Rate (t_L to t_P)	3°C/second max.
Liquidous Temperature (T_L)	217°C
Time (t_L) Maintained Above (T_L)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (t_P) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (T_P to T_L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

➤ Ordering Information

Part Number	Description	Quantity
PAN6035EDN	DFN1.0X0.6-3L Reel	10,000 pcs

➤ Package Information (DFN1.0X0.6-3L)



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