

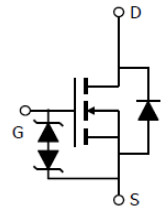
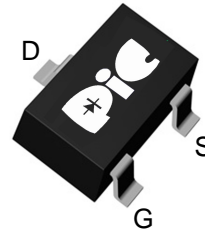
## ➤ General Description

This PAN6062EB 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

- Super high density cell design for extremely low  $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- ESD Protection ( 2KV ) Diode design-in
- SOT-523 package design

## ➤ SOT-523



## ➤ Application

- Drivers: Relays, Solenoids, Lamps, Hammers, Display, Memories, Transistors, etc.
- High saturation current capability. Direct Logic-Level Interface: TTL/CMOS
- Battery Operated Systems
- Solid-State Relays

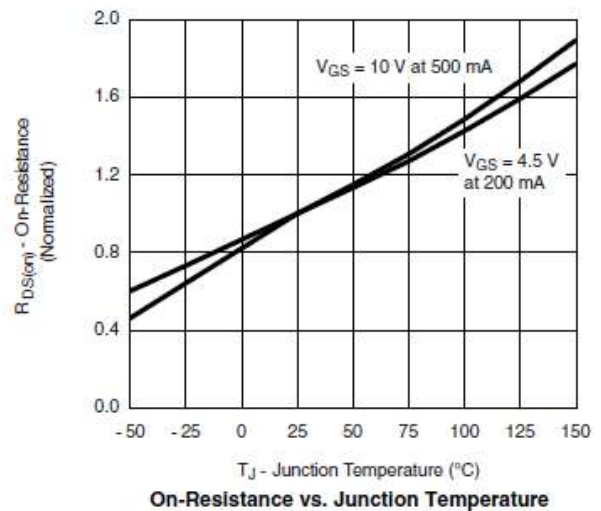
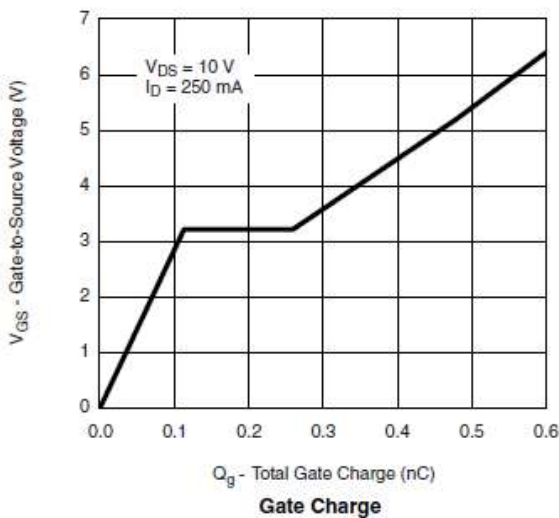
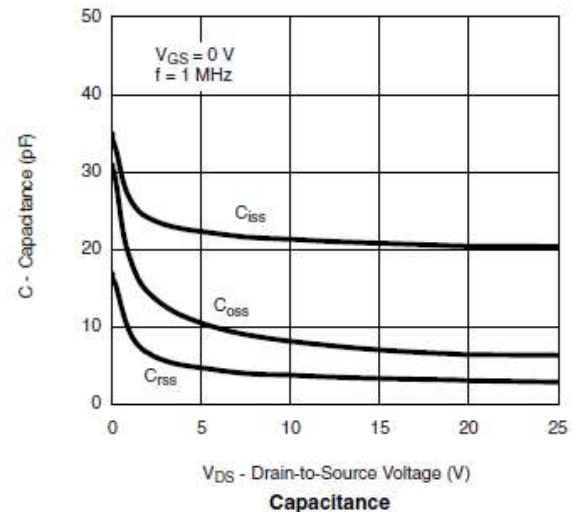
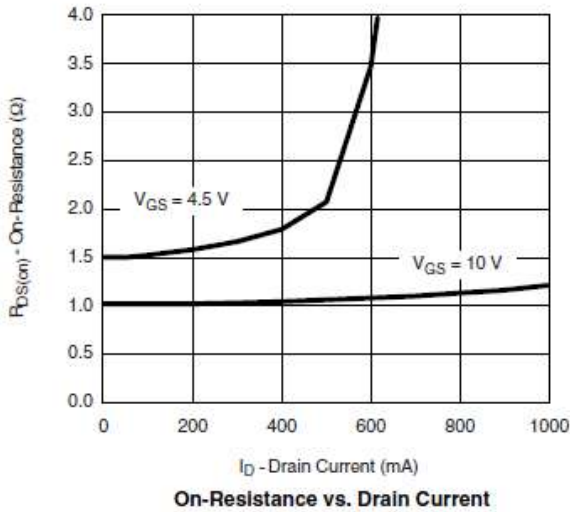
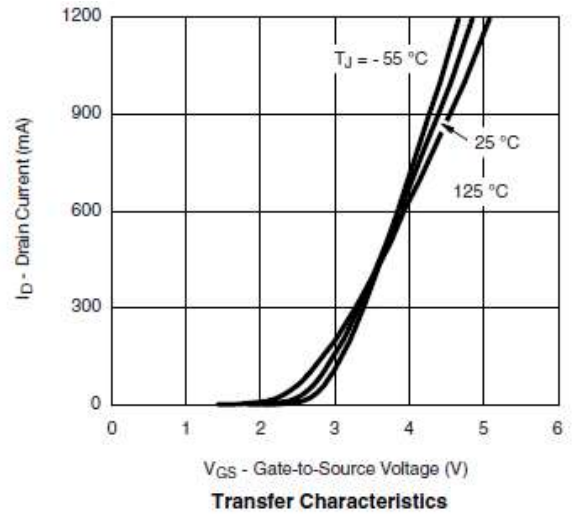
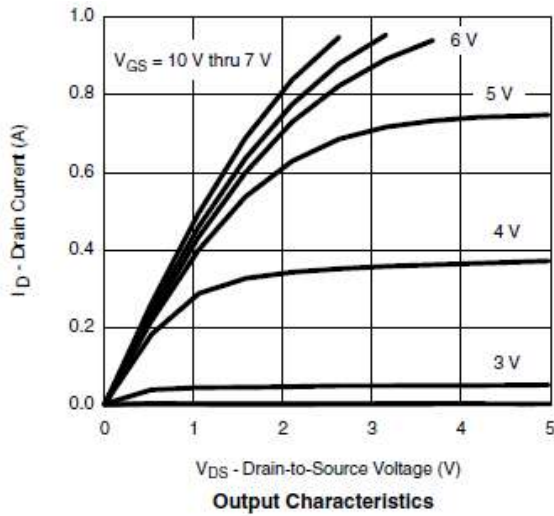
## ➤ Absolute Maximum Ratings

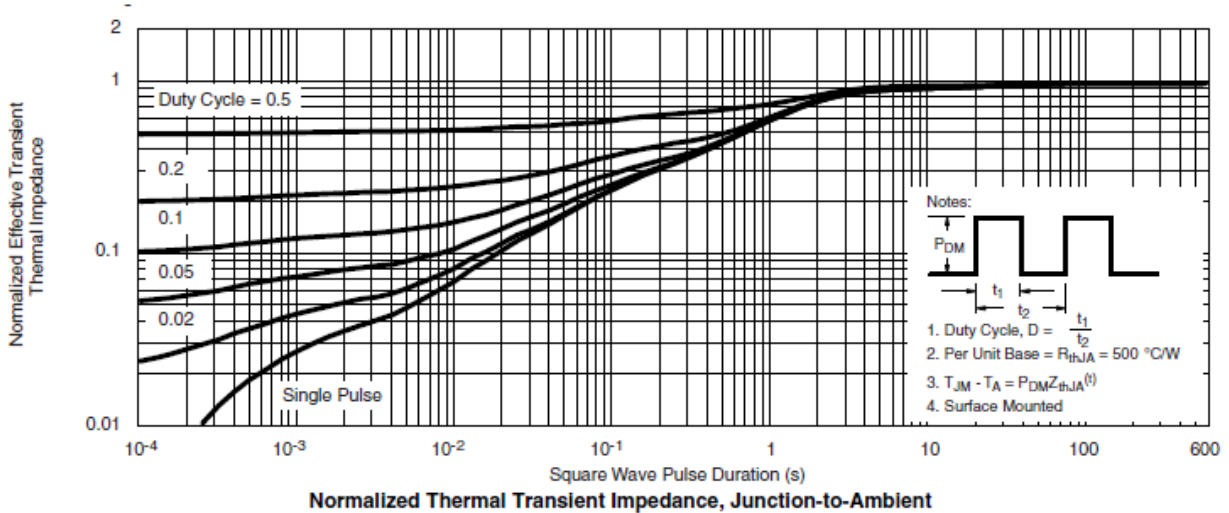
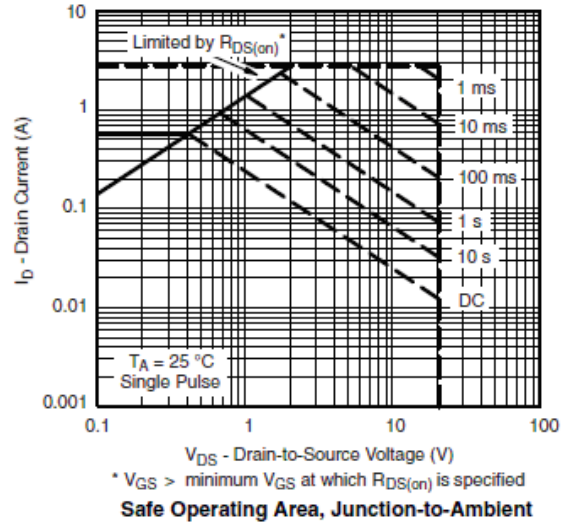
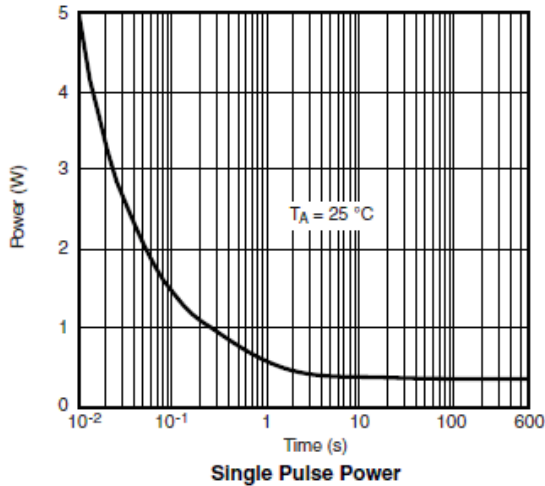
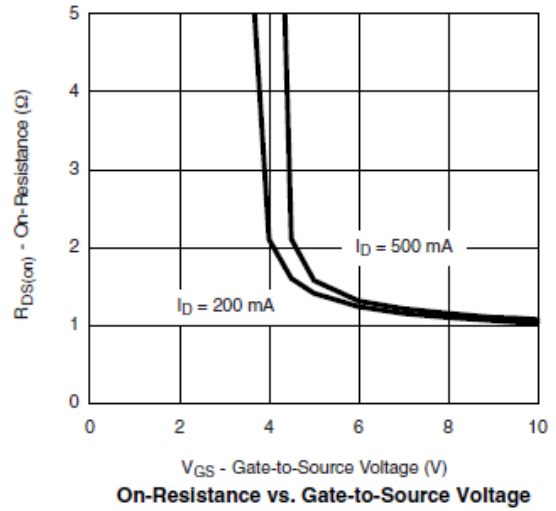
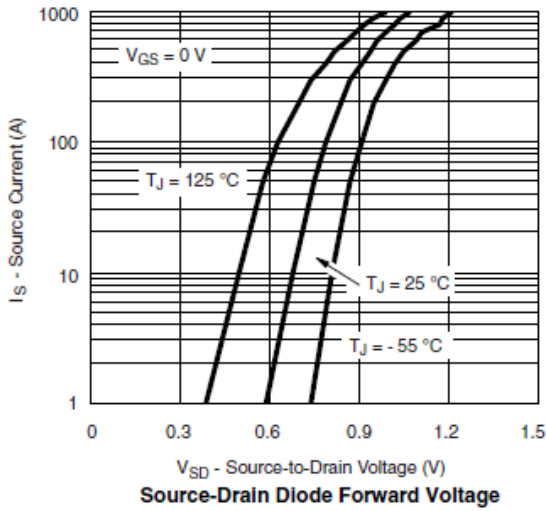
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DSS}$	60	V
Gate -Source Voltage	$V_{GSS}$	$\pm 20$	V
Continuous Drain Current( $T_J=150^\circ C$ )	$I_D$	$T_A=25^\circ C$	0.35
		$T_A=70^\circ C$	0.25
Pulsed Drain Current	$I_{DM}$	0.65	A
Continuous Source Current(Diode Conduction)	$I_S$	0.45	A
Power Dissipation		$T_A=25^\circ C$	0.27
		$T_A=70^\circ C$	0.16
Operating Junction Temperature	$T_J$	-55/150	$^\circ C$
Storage Temperature Range	$T_{STG}$	-55/150	$^\circ C$
Gate-Source ESD Rating (HBM, Method 3015)	$R_{\theta JA}$	2000	V

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

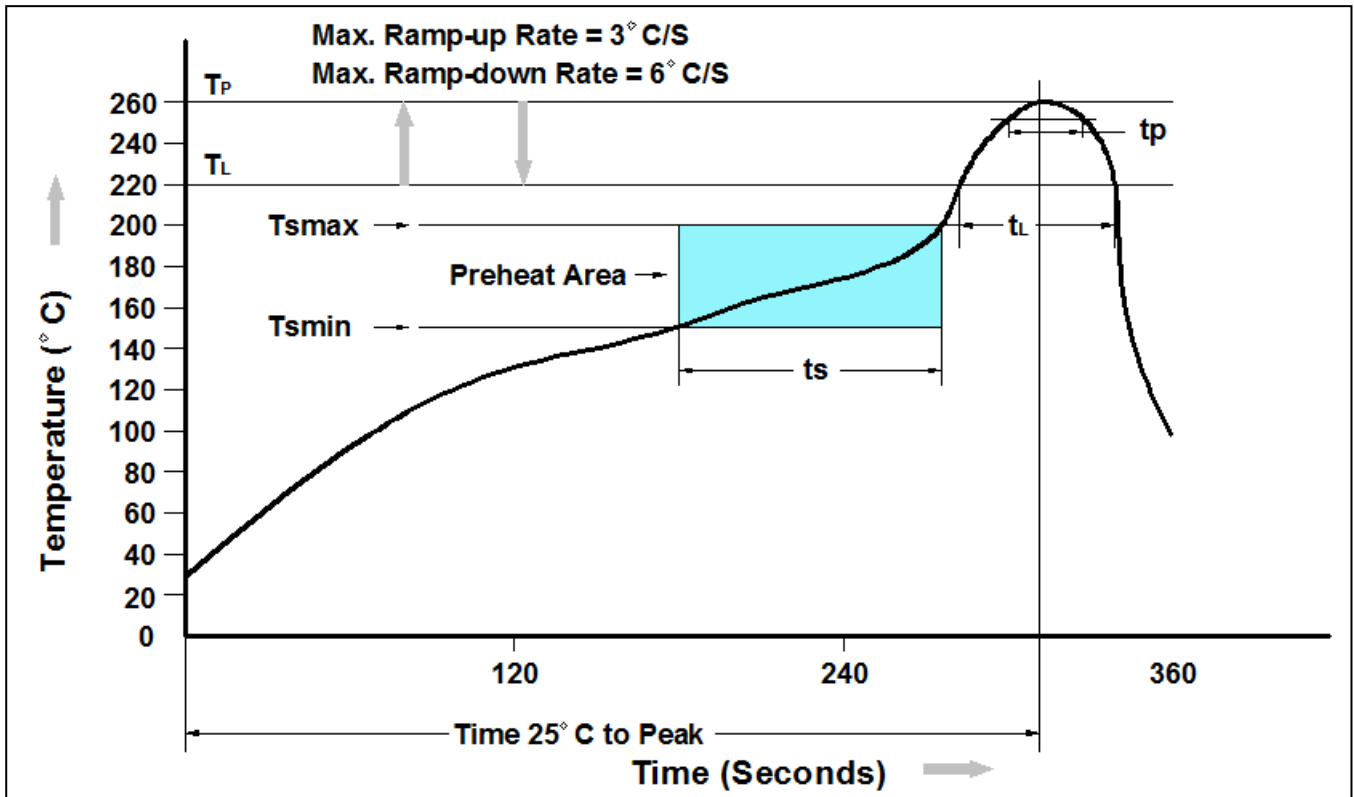
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0		2.0	
Gate Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			3	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
		$V_{DS}=60V, V_{GS}=0V$ $T_J=85^\circ C$			10	
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.5A$		1200	2400	$m\Omega$
		$V_{GS}=4.5V, I_D=0.3A$		1600	3000	
Forward Transconductance	$g_{FS}$	$V_{DS}=10V, I_D=0.2A$		0.2		S
Diode Forward Voltage	$V_{SD}$	$I_S=0.2A, V_{GS}=0V$		0.75	1.4	V
<b>Dynamic</b>						
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=4.5V$ $I_D=0.25A$		400		$pC$
Gate-Source Charge	$Q_{gs}$			110		
Gate-Drain Charge	$Q_{gd}$			150		
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V$ $f=1MHz$		30		$pF$
Output Capacitance	$C_{oss}$			8		
Reverse Transfer Capacitance	$C_{rss}$			5		
Turn-On Time	$t_{d(on)}$	$V_{DD}=30V, R_L=150\Omega$ $I_D=0.2A, V_{GEN}=-$ $4.5V R_G=10\Omega$		10	20	ns
	$t_r$			35	50	
Turn-Off Time	$t_{d(off)}$			20	30	
	$t_f$			40	60	

## ➤ Typical Characteristics





➤ Recommand IR Reflow Soldering Thermal Profile

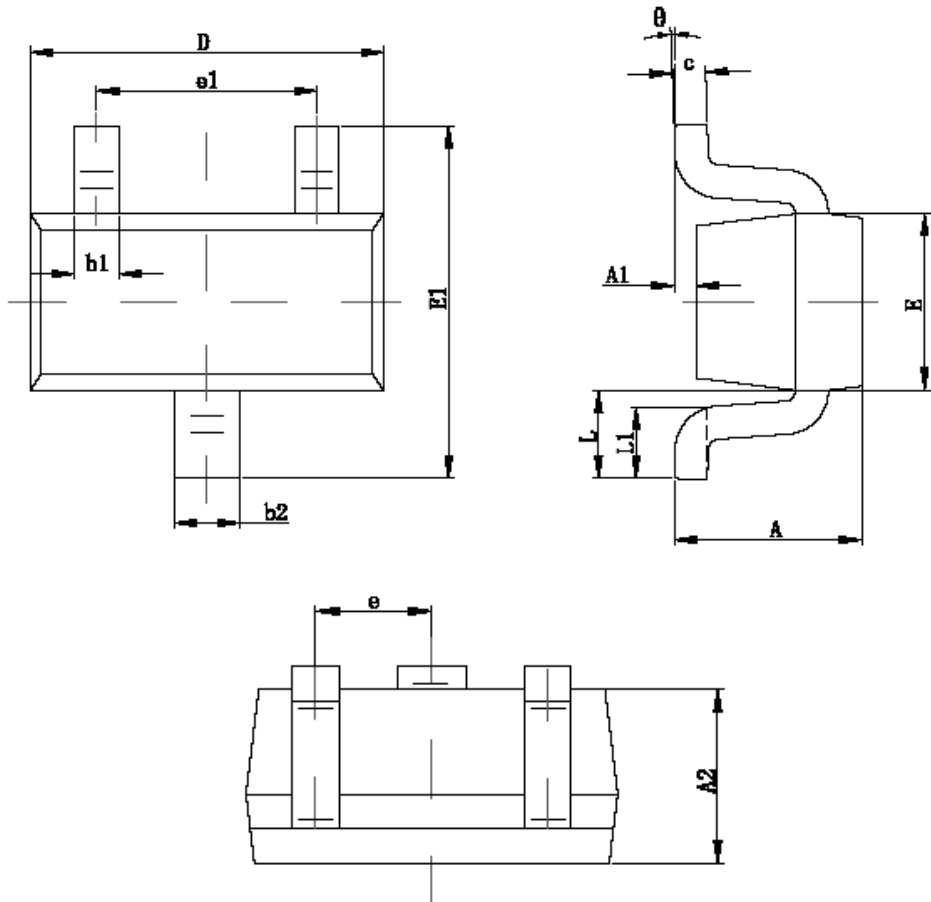


Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T <sub>smin</sub> )	150°C
Temperature Max. (T <sub>smax</sub> )	200°C
Time (t <sub>s</sub> ) from (T <sub>smin</sub> to T <sub>smax</sub> )	60-120 seconds
Average Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.
Liquidous Temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (t <sub>P</sub> ) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

➤ Ordering Information

Part Number	Description	Quantity
PAN6062EB	SOT-523 Reel	3000 pcs

➤ Package Information ( SOT-523 )



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.500 TYP		0.020 TYP	
e1	0.900	1.100	0.035	0.043
L	0.550 REF		0.022 REF	
L1	0.280	0.440	0.011	0.017
θ	0°	4°	0°	4°

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