

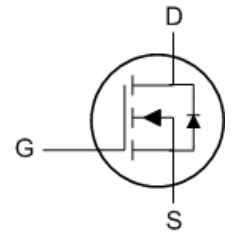
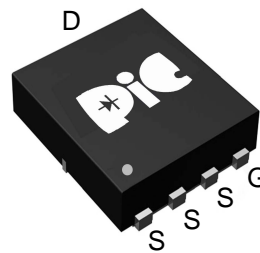
➤ General Description

This PAN62TY52Y 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 Low Gate Charge
- 100% EAS Guaranteed
- Green Device Available
- Excellent CdV/dt effect decline
- Advanced high cell density Trench technology
- DFN5x6B-EP1 package design

➤ DFN5X6B-EP1



➤ Application

- DC/DC Primary Side Switch
- Industrial Synchronous
- Rectification Load Switch
- DC/DC Converters

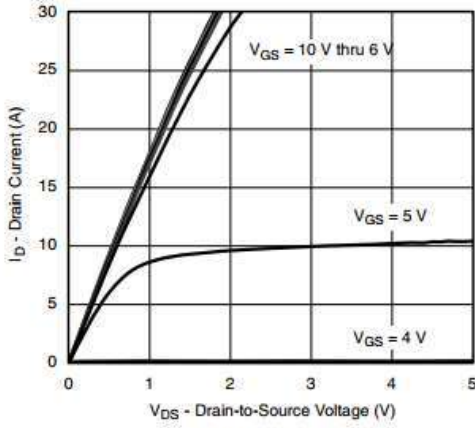
➤ Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	150	V
Gate -Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current($T_J=150^\circ C$)	I_{DSM}	$T_C=25^\circ C$	18
		$T_C=70^\circ C$	12
		$T_A=25^\circ C$	5.9
		$T_A=70^\circ C$	4.8
Pulsed Drain Current	I_{DM}	30	A
Continuous Source Current(Diode Conduction)	I_S	30	A
Single Pulse Avalanche Current	I_{AS}	15	A
Power Dissipation	P_{DSM}	$T_A=25^\circ C$	2
		$T_A=75^\circ C$	1.25
Operating Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{STG}	-55/150	$^\circ C$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	$t \leq 10$ s	15
		Steady-State	45

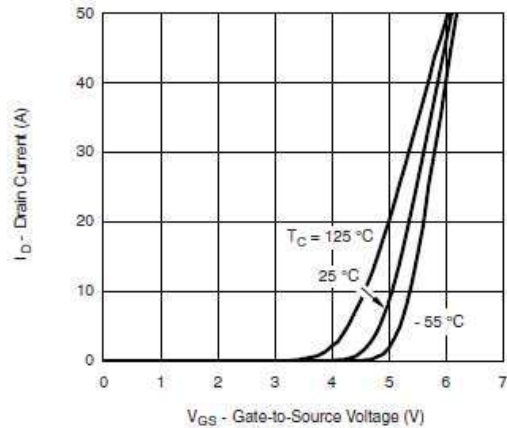
➤ N-Channel Electrical Characteristics (T_J=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	150			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3	4	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=120V, V_{GS}=0V$			1	uA
		$V_{DS}=120V, V_{GS}=0V$ $T_J=85^\circ C$			5	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 5V, V_{GS}=10V$	25			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5.9A$		52	64	mΩ
		$V_{GS}=6V, I_D=4.8A$		55	70	
Forward Transconductance	g_{FS}	$V_{DS}=15V, I_D=25A$		40		S
Diode Forward Voltage	V_{SD}	$I_S=2.5A, V_{GS}=0V$		0.8	1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=75V, V_{GS}=10V$ $I_D=5.9A$		30	50	nC
Gate-Source Charge	Q_{gs}			10		
Gate-Drain Charge	Q_{gd}			12		
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V$ $f=1MHz$		1685		pF
Output Capacitance	C_{oss}			215		
Reverse Transfer Capacitance	C_{rss}			100		
Turn-On Time	$t_{d(on)}$	$V_{DD}=50V, R_L=3\Omega$ $I_D=4.8, V_{GEN}=10V$ $R_G=2.5\Omega$		15	30	ns
	t_r			70	135	
Turn-Off Time	$t_{d(off)}$			25	50	
	t_f			60	100	

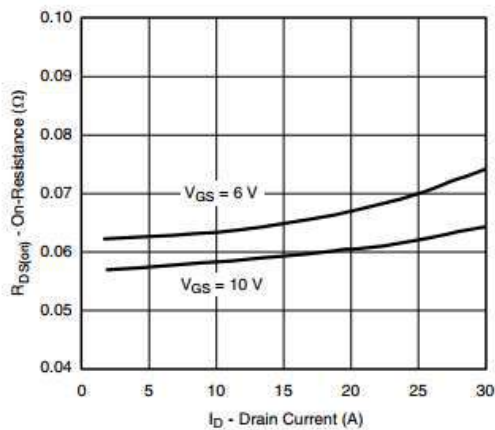
➤ Typical Characteristics



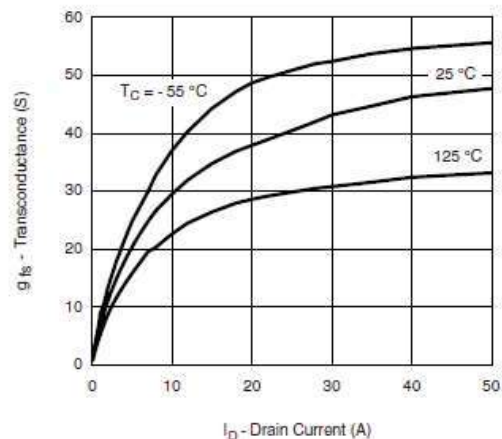
Output Characteristics



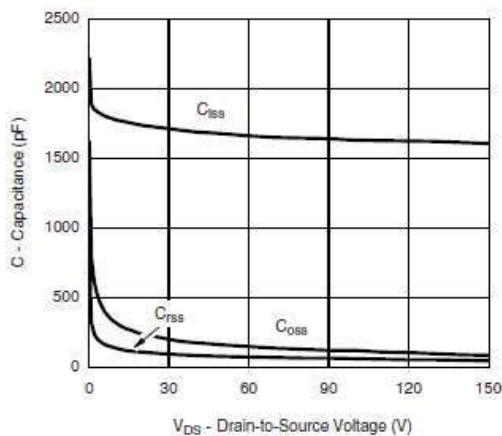
Transfer Characteristics



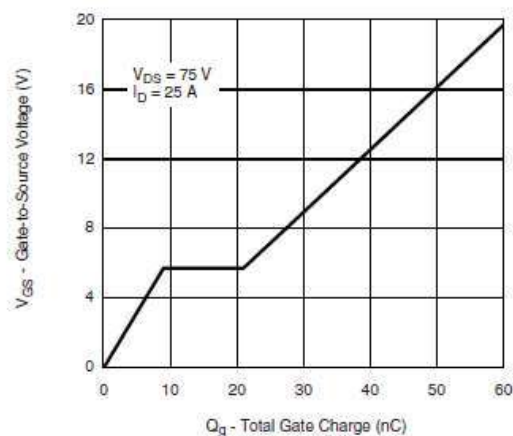
On-Resistance vs. Drain Current and Gate Voltage



Transconductance

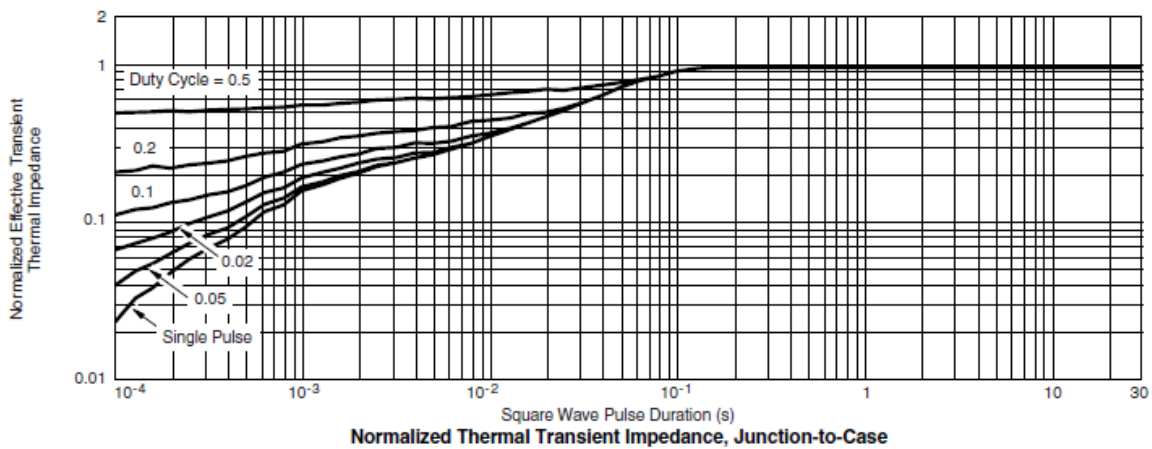
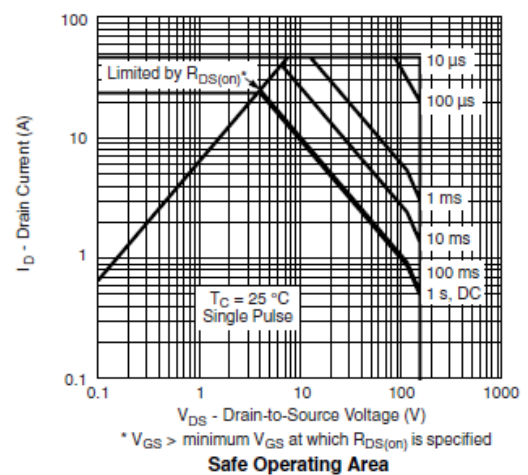
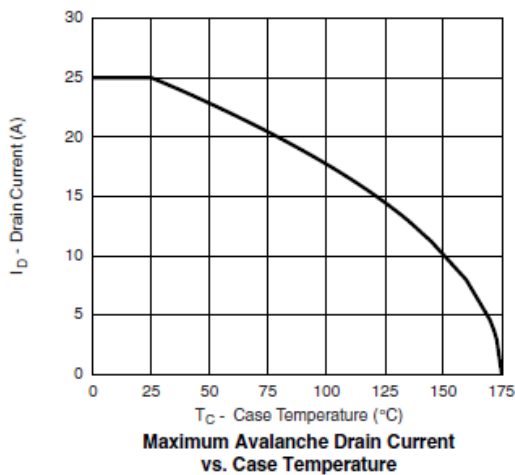
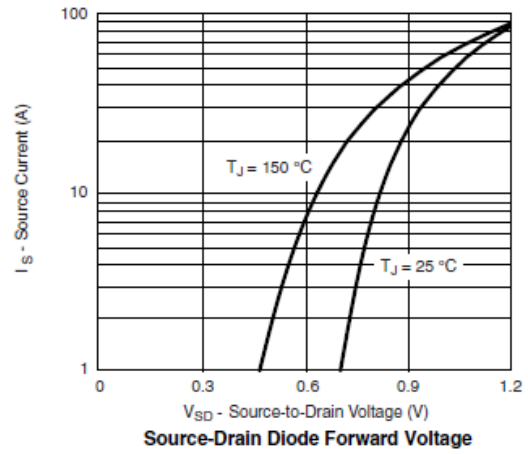
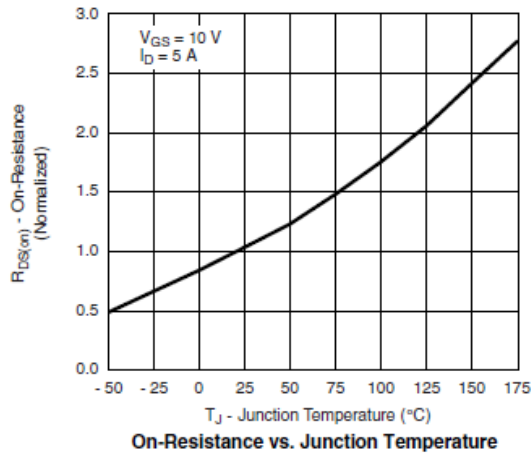


Capacitance

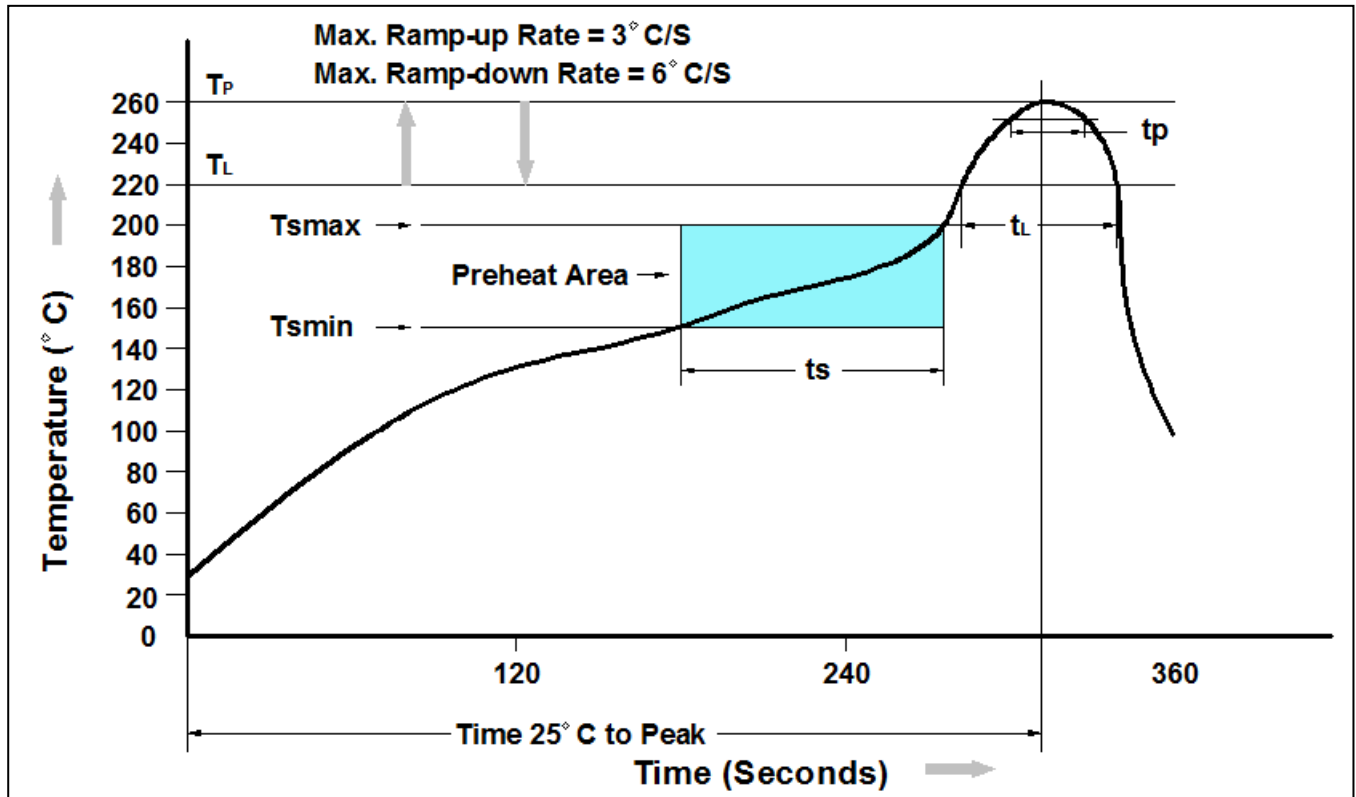


Gate Charge

➤ Typical Characteristics



➤ Recommend IR Reflow Soldering Thermal Profile

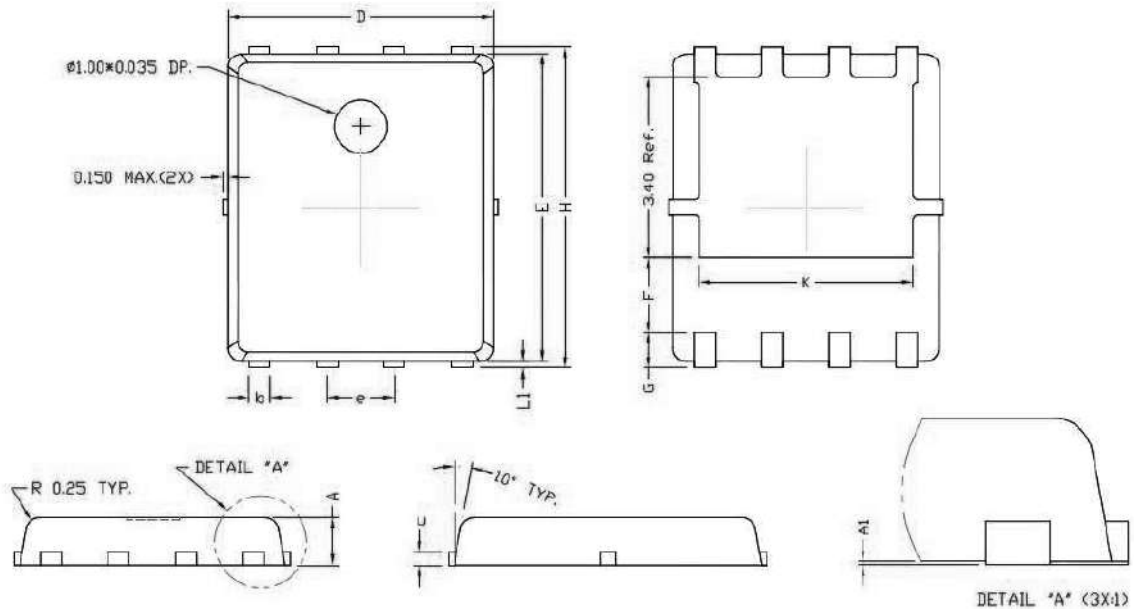


Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Average Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
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
PAN62TY52Y	DFN5X6B-EP1 Reel	2500 pcs

➤ Package Information (DFN5X6B-EP1)



DIMENSIONS

REF.	Millimeters		REF.	Millimeters	
	Min.	Max.		Min.	Max.
A	0.80	1.00	E	5.70	5.90
A1	0.00	0.05	e	1.27 BSC.	
b	0.35	0.49	H	5.95	6.20
c	0.254 Ref.		L1	0.10	0.18
D	4.90	5.10	G	0.60 Ref.	
F	1.40 Ref.		K	4.00 Ref.	

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