

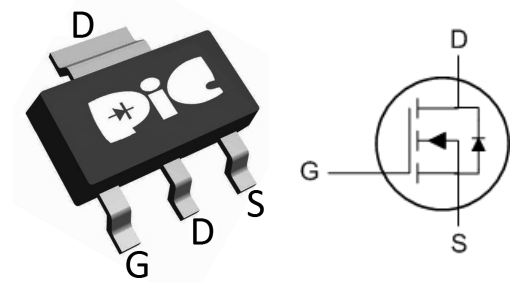
➤ General Description

This PAN26TB02QB 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

- Green Device Available
- Super Low Gate Charge
- Excellent CdV/dt effect decline
- Advanced high cell density Trench technology
- SOT-223 package design

➤ SOT-223



➤ Application

- Motor and Load Control
- Power Management in White LED System
- Push Pull Converter
- LCD TV Inverter & AD/DC Inverter Systems.

➤ Absolute Maximum Ratings

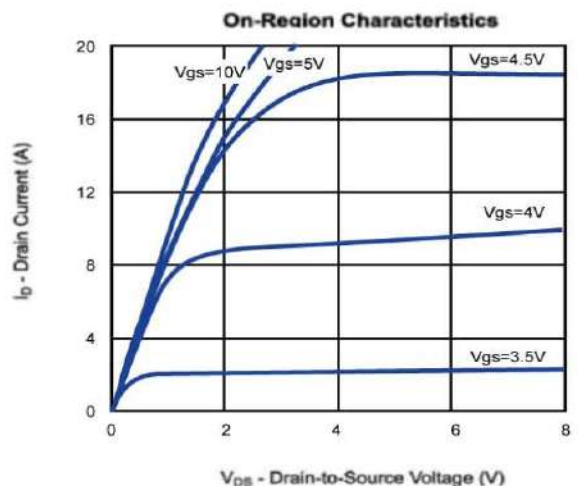
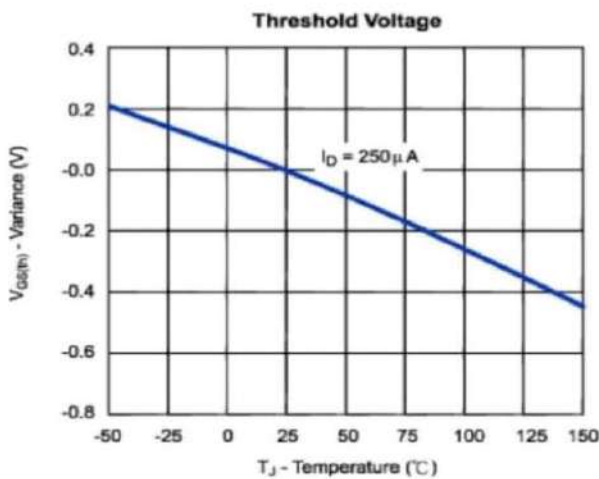
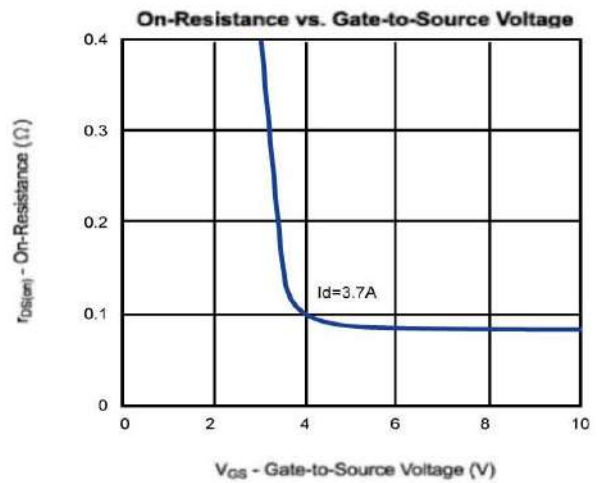
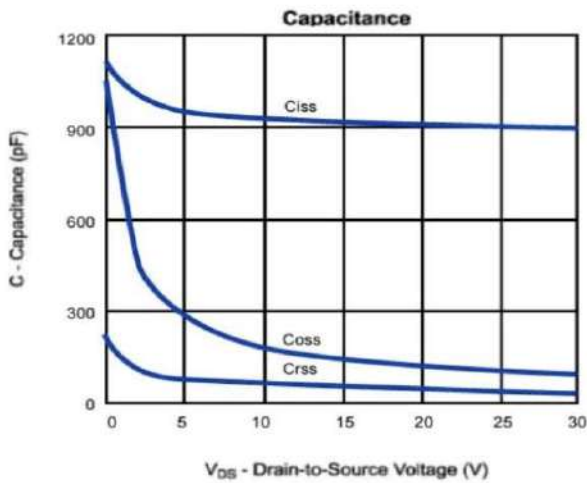
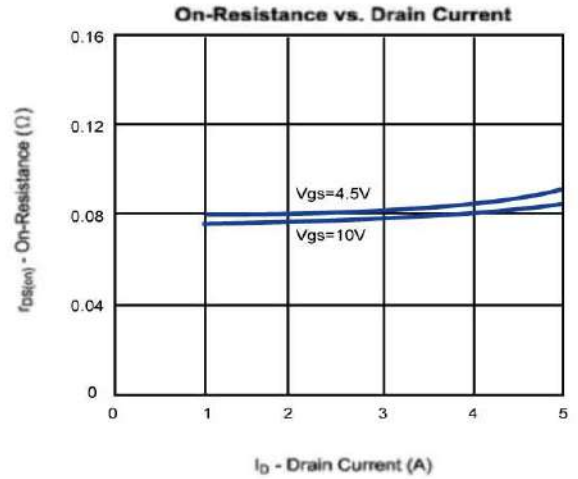
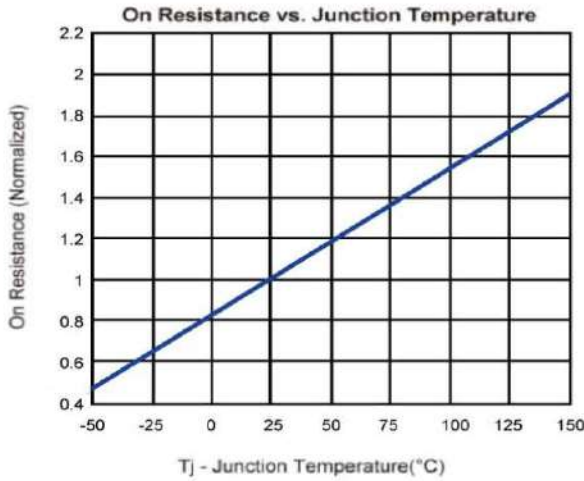
Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	$T_A=25^\circ C$	4
		$T_A=70^\circ C$	3.2
Pulsed Drain Current	I_{DM}	16	A
Maximum Power Dissipation	P_D	$T_A=25^\circ C$	3
		$T_A=70^\circ C$	1.9
Operating Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	$^\circ C$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	42	$^\circ C/W$

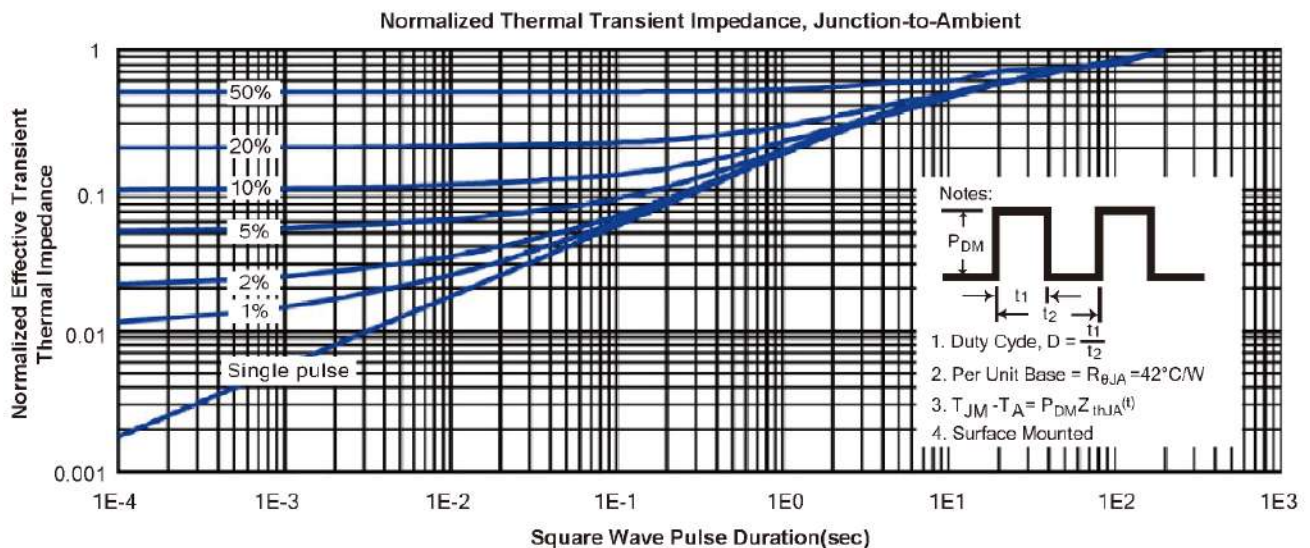
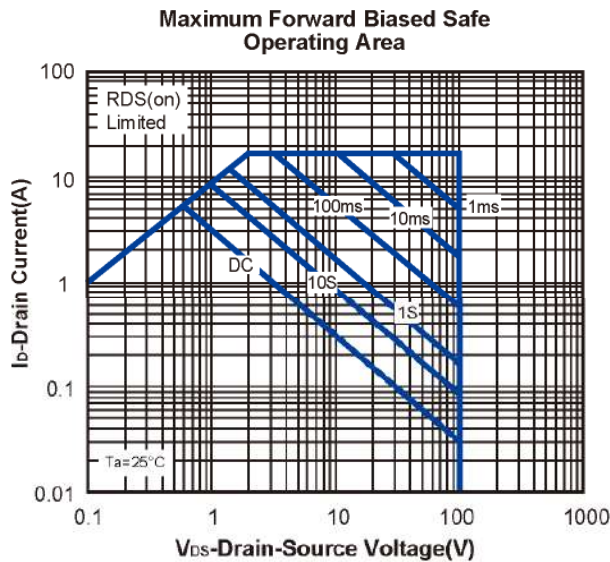
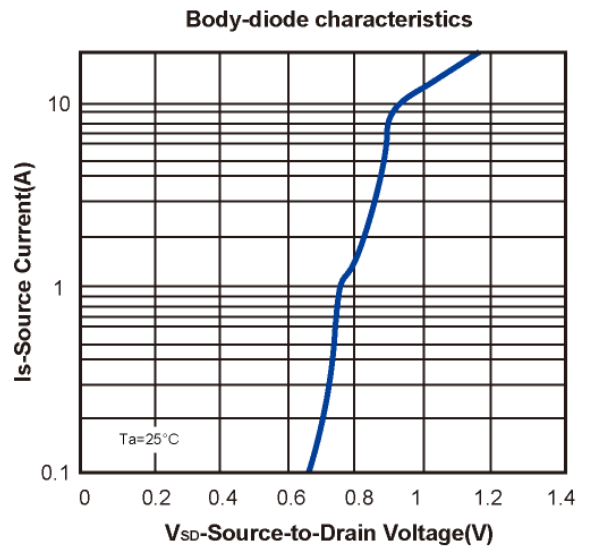
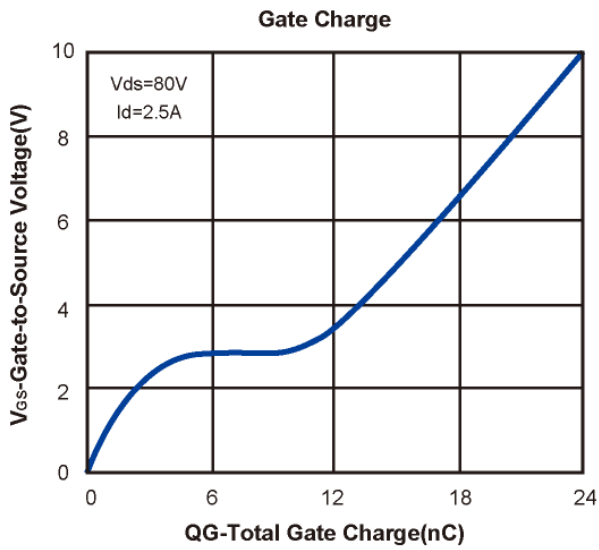
➤ Electrical Characteristics ($T_J=25^\circ C$ Unless otherwise noted)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
$V_{BR(DSS)}$	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=250\mu A$	1.0		3.0	V
I_{GSS}	Gate Leakage Current	$V_{DS}=0V$, $V_{GS}=\pm 20V$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=100V$, $V_{GS}=0V$			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance ^a	$V_{GS}=10V$, $I_D=3.7A$		80	100	m Ω
		$V_{GS}=4.5V$, $I_D=3.5A$		85	115	
V_{SD}	Diode Forward Voltage	$I_S=2.5A$, $V_{GS}=0V$		0.8	1.2	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=80V$, $V_{GS}=10V$, $I_D=2.5A$		24		nC
Q_g	Total Gate Charge	$V_{DS}=80V$, $V_{GS}=4.5V$, $I_D=2.5A$		14		
Q_{gs}	Gate-Source Charge			3.8		
Q_{gd}	Gate-Drain Charge			7.5		
C_{iss}	Input capacitance	$V_{DS}=15V$, $V_{GS}=0V$, $f=1.0MHz$		905		pF
C_{oss}	Output Capacitance			145		
C_{rss}	Reverse Transfer Capacitance			43		
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1MHz$		1		Ω
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=50V$, $R_L=10\Omega$ $V_{GEN}=10V$, $R_G=6\Omega$		15		ns
t_r	Turn-On Rise Time			8		
$t_{d(off)}$	Turn-Off Delay Time			47		
t_f	Turn-Off Fall Time			6		

Notes: a. Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$, Guaranteed by design, not subject to production testing.

➤ Typical Characteristics





➤ Recommand IR Reflow Soldering Thermal Profile

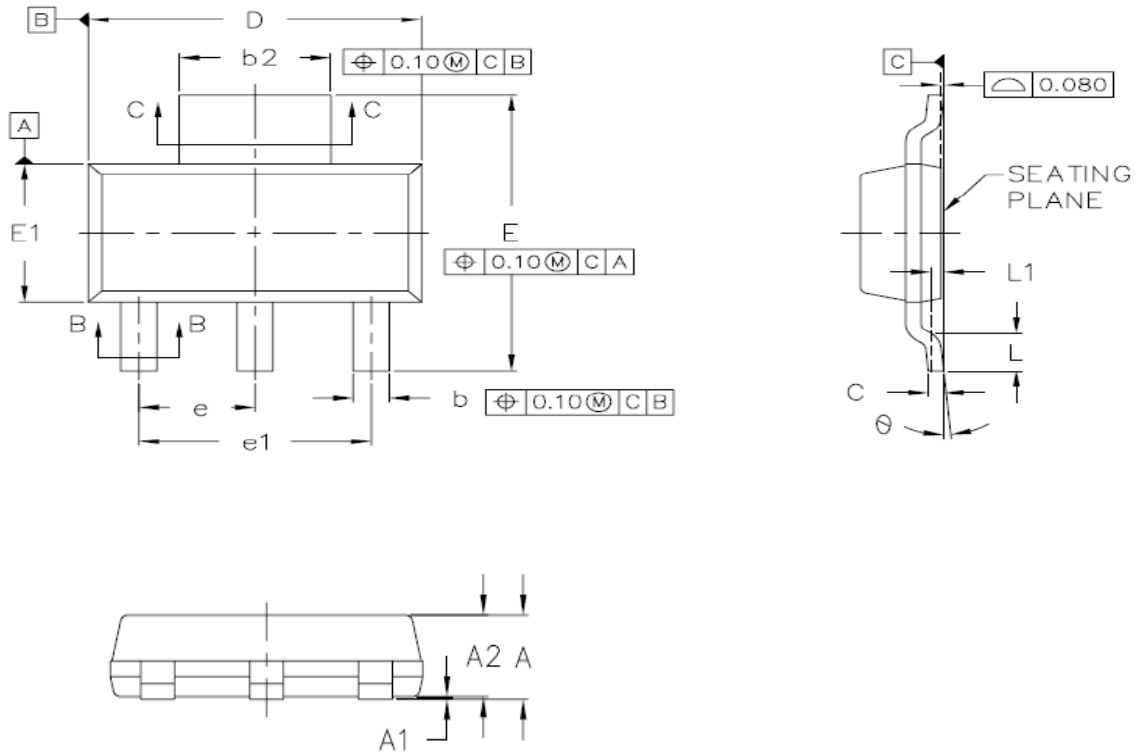


Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Average Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
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
PAN26TB02QB	SOT-223 Reel	3000 pcs

➤ Package Information (SOT-223)



DIMENSIONS	COMMON			
	MM		INCH	
	MIN.	MAX.	MIN.	MAX.
A	—	1.80	—	0.071
A1	0.02	0.10	0.001	0.004
A2	1.50	1.70	0.059	0.067
b	0.66	0.84	0.026	0.033
b1	0.60	0.79	0.024	0.031
b2	2.90	3.10	0.114	0.122
b3	2.84	3.05	0.112	0.120
c	0.23	0.35	0.009	0.014
c1	0.23	0.33	0.009	0.013
D	6.30	6.70	0.248	0.264
E	6.70	7.30	0.264	0.287
E1	3.30	3.70	0.130	0.146
e	2.30 BSC.		0.091 BSC.	
e1	4.60 BSC.		0.182 BSC.	
L	0.81	—	0.032	—
L1	0.25 BSC.		0.010 BSC.	
θ	0°	10°	0°	10°

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