

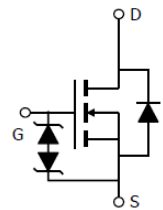
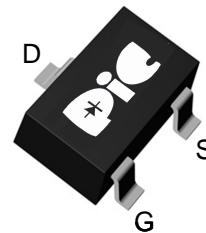
➤ General Description

This PAN7002KWR 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 on resistance $R_{DS(ON)}$
- Low gate threshold voltage
- Low input capacitance
- ESD protected up to 1KV
- SOT-323 package design

➤ SOT-323



➤ Application

- Portable Equipment
- Battery Powered System
- Net Working System

➤ Maximum Ratings ($T_A=25^\circ C$ Unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	300	mA
Drain Current(Pulse Width $\leq 10 \mu s$)	I_{DM}	800	mA
Total Power Dissipation	P_{tot}	200	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ C$

➤ **Electrical Characteristics (T_A=25°C Unless otherwise specified)**

Parameter	Test Conditions	Symbol	Min.	Max.	Unit
Drain Source Breakdown Voltage	$I_D = 10 \mu A$	BV_{DSS}	60	-	V
Zero Gate Voltage Drain Current	$V_{DS} = 60 V$	I_{DSS}	-	1	μA
Gate Source Leakage Current	$V_{GS} = \pm 20 V$	I_{GSS}	-	± 10	μA
Gate Threshold Voltage	$V_{DS} = 10V, I_D = 250 \mu A$	$V_{GS(th)}$	1.0	2.5	V
Static Drain Source On-Resistance	$V_{GS} = 10 V, I_D = 500 mA$	$R_{DS(ON)}$	-	3	Ω
	$V_{GS} = 4.5 V, I_D = 200 mA$		-	4	
Forward Transconductance	$V_{DS} = 10 V, I_D = 200 mA$	g_{FS}	80	-	mS
Input Capacitance	$V_{DS} = 25 V, f = 1 MHz$	C_{iss}	-	50	pF
Output Capacitance	$V_{DS} = 25 V, f = 1 MHz$	C_{oss}	-	25	pF
Reverse Transfer Capacitance	$V_{DS} = 25 V, f = 1 MHz$	C_{rss}	-	5	pF

➤ Typical Characteristics

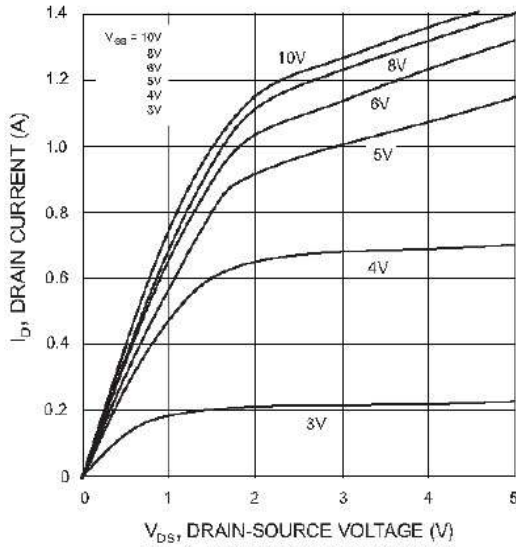


Fig. 1 Typical Output Characteristics

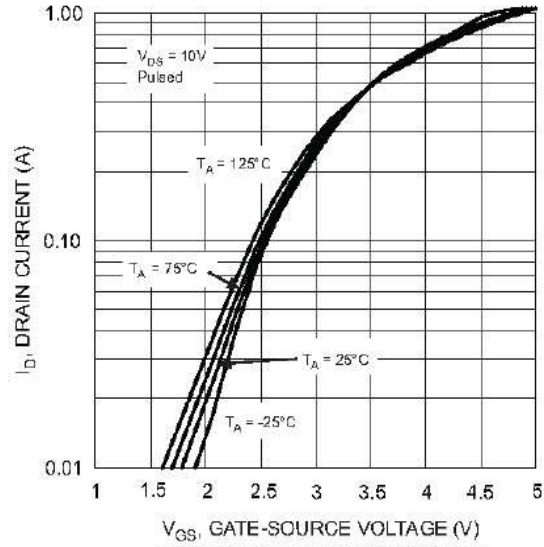


Fig. 2 Typical Transfer Characteristics

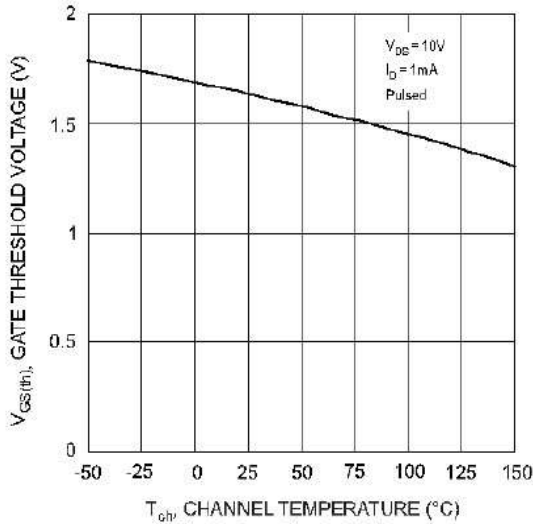


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

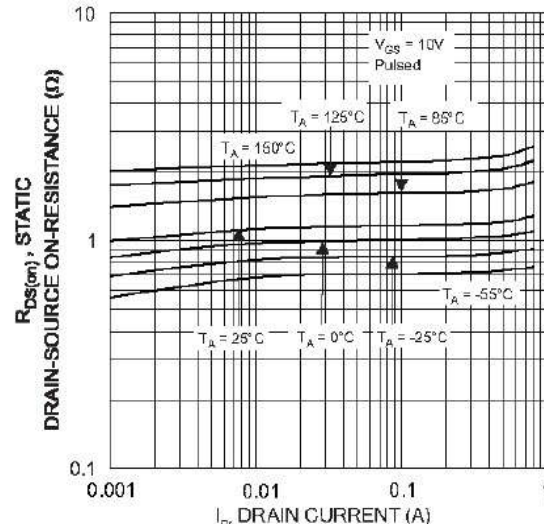


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

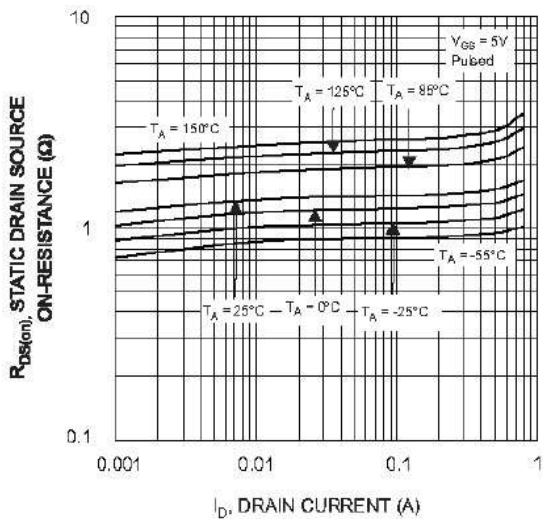


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

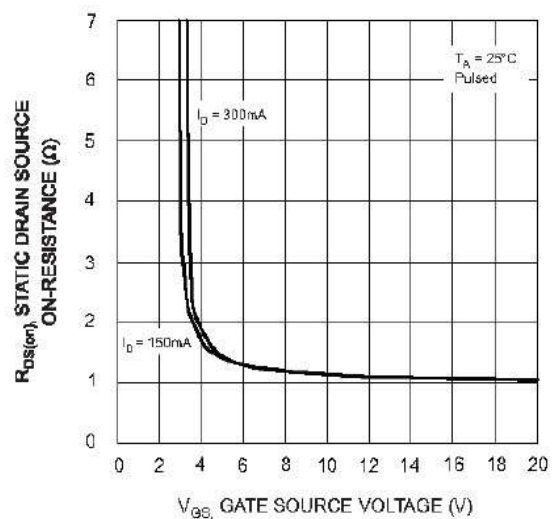
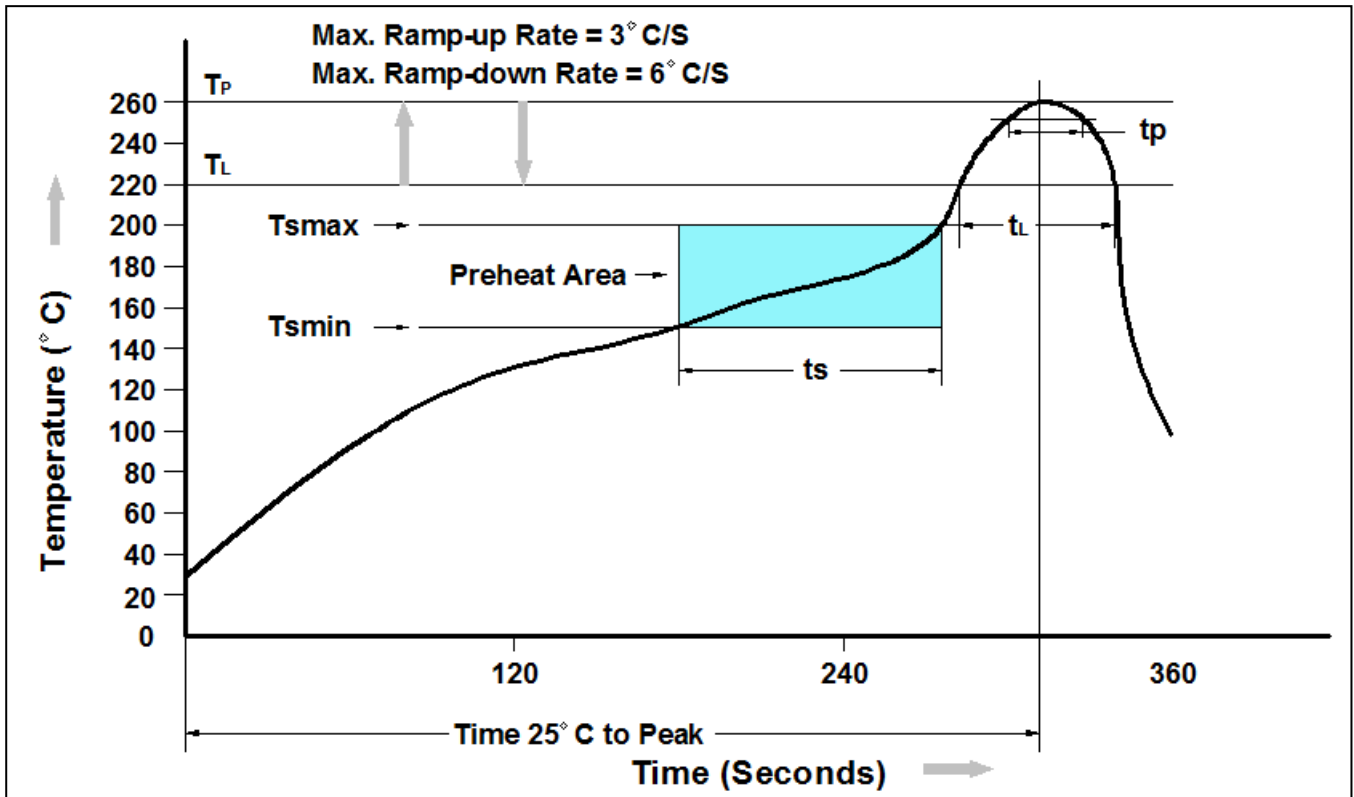


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

➤ Recommand IR Reflow Soldering Thermal Profile

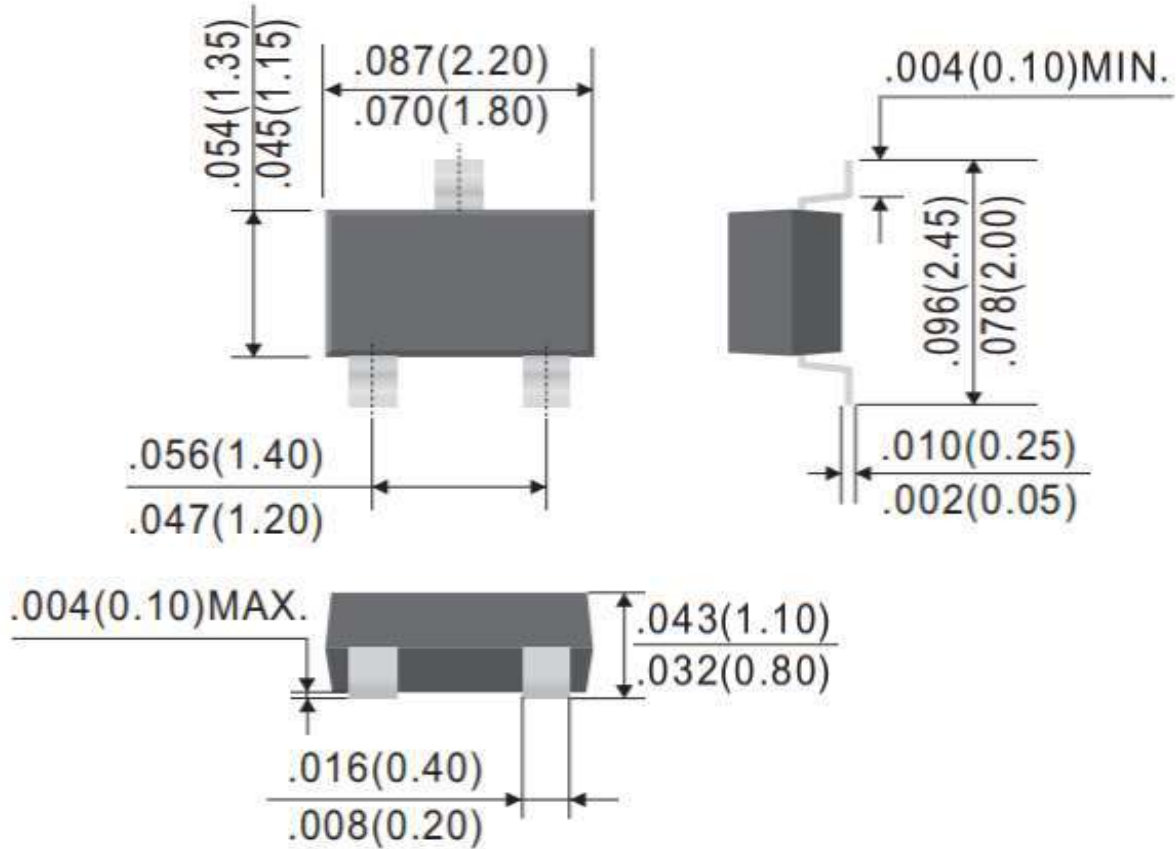


Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Average Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
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
PAN7002KWR	SOT-323 Reel	3000 pcs

➤ Package Information (SOT-323)



Dimensions in inch and (millimeter)

DISCLAIMER

- The information in this document and any product described herein are subject to change without notice and should not be construed as a commitment by Paceleader, Paceleader reserve the right to make changes to the information in this document.
- Though Paceleader make effort to improve product quality and reliability, Product can malfunction and fail due to their inherent electrical sensitivity and vulnerability to physical stress, it is the responsibility of the customer, when utilizing Paceleader products, to comply with the standards of safety in making a safe design for entire system and to avoid situation in which a malfunction or failure., In developing a new designs, customer should ensure that the device which shown in this documents are used within specified operatingranges.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by Paceleader for any infringements of patents or other rights of the third parties which may result from its use.