

**P-CHANNEL MOSFET**  
 Qualified per MIL-PRF-19500/595

DEVICES

**2N7236 2N7236U**

LEVELS

**JAN  
 JANTX  
 JANTXV**

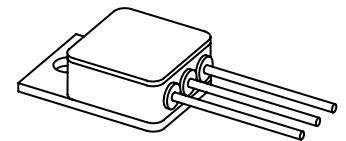
**ABSOLUTE MAXIMUM RATINGS ( $T_C = +25^\circ\text{C}$  unless otherwise noted)**

Parameters / Test Conditions	Symbol	Value	Unit
Drain – Source Voltage	$V_{DS}$	-100	Vdc
Gate – Source Voltage	$V_{GS}$	$\pm 20$	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	$I_{D1}$	-18	A <sub>dc</sub>
Continuous Drain Current $T_C = +100^\circ\text{C}$	$I_{D2}$	-11	A <sub>dc</sub>
Max. Power Dissipation $T_C = +25^\circ\text{C}$	$P_{tl}$	125 <sup>(1)</sup>	W
Drain to Source On State Resistance	$R_{ds(on)}$	0.20 <sup>(2)</sup>	$\Omega$
Operating & Storage Temperature	$T_{op}, T_{stg}$	-55 to +150	$^\circ\text{C}$

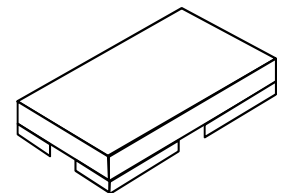
**Note:** (1) Derated Linearly by 1.0 W/ $^\circ\text{C}$  for  $T_C > +25^\circ\text{C}$   
 (2)  $V_{GS} = 10\text{Vdc}$ ,  $I_D = -11\text{A}$

**ELECTRICAL CHARACTERISTICS ( $T_A = +25^\circ\text{C}$ , unless otherwise noted)**

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Drain-Source Breakdown Voltage $V_{GS} = 0\text{V}$ , $I_D = 1\text{mA}$	$V_{(BR)DSS}$	-100		Vdc
Gate-Source Voltage (Threshold) $V_{DS} \geq V_{GS}$ , $I_D = -0.25\text{mA}$ $V_{DS} \geq V_{GS}$ , $I_D = -0.25\text{mA}$ , $T_j = +125^\circ\text{C}$ $V_{DS} \geq V_{GS}$ , $I_D = -0.25\text{mA}$ , $T_j = -55^\circ\text{C}$	$V_{GS(th)1}$ $V_{GS(th)2}$ $V_{GS(th)3}$	-2.0 -1.0	-4.0 -5.0	Vdc
Gate Current $V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0\text{V}$ $V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0\text{V}$ , $T_j = +125^\circ\text{C}$	$I_{GSS1}$ $I_{GSS2}$		$\pm 100$ $\pm 200$	nA <sub>dc</sub>
Drain Current $V_{GS} = 0\text{V}$ , $V_{DS} = -80\text{V}$ $V_{GS} = 0\text{V}$ , $V_{DS} = -100\text{V}$ , $T_j = +125^\circ\text{C}$ $V_{GS} = 0\text{V}$ , $V_{DS} = -80\text{V}$ , $T_j = +125^\circ\text{C}$	$I_{DSS1}$ $I_{DSS2}$ $I_{DSS3}$		-25 -1.0 -0.25	$\mu\text{A}$ <sub>dc</sub> mA <sub>dc</sub> mA <sub>dc</sub>
Static Drain-Source On-State Resistance $V_{GS} = 10\text{V}$ , $I_D = -11\text{A}$ pulsed $V_{GS} = -10\text{V}$ , $I_D = -18\text{A}$ pulsed $T_j = +125^\circ\text{C}$ $V_{GS} = -10\text{V}$ , $I_D = -11\text{A}$ pulsed	$r_{DS(on)1}$ $r_{DS(on)2}$ $r_{DS(on)3}$		0.20 0.22 0.34	$\Omega$ $\Omega$ $\Omega$
Diode Forward Voltage $V_{GS} = 0\text{V}$ , $I_D = -18\text{A}$ pulsed	$V_{SD}$		-5.0	Vdc



**TO-254AA**



**U-PKG (SMD-1)  
 (TO-267AB)**



# TECHNICAL DATA SHEET

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 1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803  
 Website: <http://www.microsemi.com>

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### DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate Charge:				
On-State Gate Charge	$Q_{g(on)}$		60	nC
Gate to Source Charge	$Q_{gs}$		13	
Gate to Drain Charge	$Q_{gd}$		35.2	

$V_{GS} = -10V, I_D = -18A$   
 $V_{DS} = -50V$

### SWITCHING CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Switching time tests:				
Turn-on delay time	$t_{d(on)}$		35	ns
Rinse time	$t_r$		85	
Turn-off delay time	$t_{d(off)}$		85	
Fall time	$t_f$		65	
Diode Reverse Recovery Time	$t_{rr}$		280	ns

$I_D = -11A, V_{GS} = -10Vdc,$   
 Gate drive impedance =  $9.1\Omega,$   
 $V_{DD} = -50Vdc$

$di/dt \leq 100A/\mu s, V_{DD} \leq 30V,$   
 $I_D = -18A$