

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)

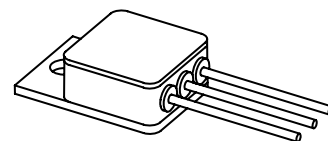
Parameters / Test Conditions	Symbol	Value	Unit
Drain – Source Voltage	V_{DS}	-100	Vdc
Gate – Source Voltage	V_{GS}	± 20	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	I_{D1}	-18	Adc
Continuous Drain Current $T_C = +100^\circ\text{C}$	I_{D2}	-11	Adc
Max. Power Dissipation $T_C = +25^\circ\text{C}$	P_{tl}	125 ⁽¹⁾	W
Drain to Source On State Resistance	$R_{ds(on)}$	0.20 ⁽²⁾	Ω
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 $T_C > +25^\circ\text{C}$

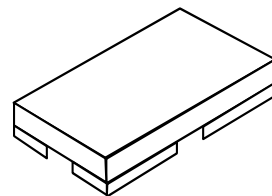
(2) $V_{GS} = 10\text{Vdc}$, $I_D = -11\text{A}$

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
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}		± 100 ± 200	nAdc
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	μAdc mAdc mAdc
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	Ω Ω Ω
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)

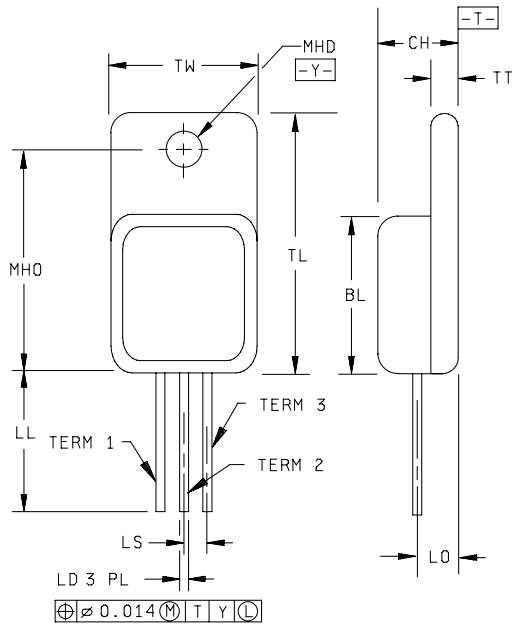
DYNAMIC CHARACTERISTICS

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	
$I_D = -11A, V_{GS} = -10Vdc$, Gate drive impedance = 9.1Ω , $V_{DD} = -50Vdc$				
Diode Reverse Recovery Time	t_{rr}		280	ns
$di/dt \leq 100A/\mu s, V_{DD} \leq 30V$, $I_D = -18A$				

PACKAGE DIMENSIONS

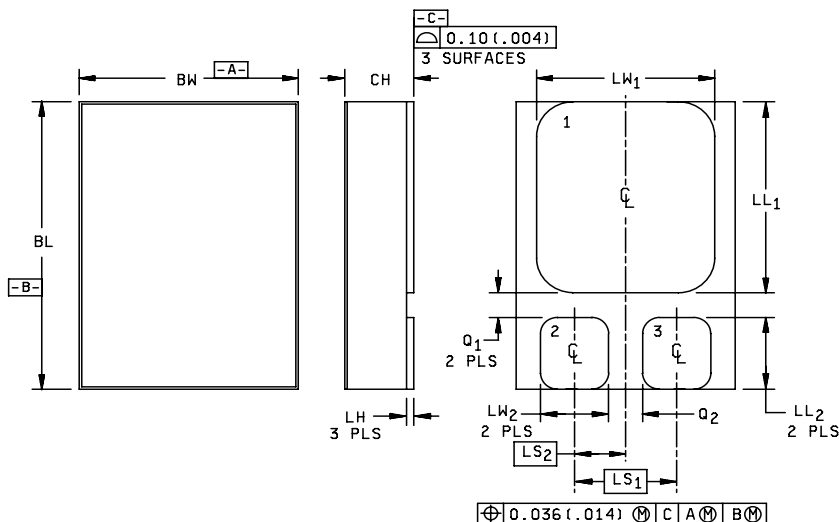


Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BL	.535	.545	13.59	13.84	
CH	.249	.260	6.32	6.60	
LD	.035	.045	0.89	1.14	
LL	.510	.570	12.95	14.48	3
LO	.150 BSC		3.81 BSC		
LS	.150 BSC		3.81 BSC		
MHD	.139	.149	3.53	3.78	
MHO	.665	.685	16.89	17.40	
TL	.790	.800	20.07	20.32	4
TT	.040	.050	1.02	1.27	4
TW	.535	.545	13.59	13.84	
Term 1	Drain				
Term 2	Source				
Term 3	Gate				

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Protrusion thickness of ceramic eyelets included in dimension LL.
4. All terminals are isolated from case.
5. In accordance with ASME Y14.5M, diameters are equivalent to $\varnothing$ x symbology.

FIGURE 1. Physical dimensions for TO-254AA (2N7236).



Letter	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.620	.630	15.75	16.00
BW	.445	.455	11.30	11.56
CH		.142		3.60
LH	.010	.020	0.26	0.50
LL ₁	.410	.420	10.41	10.67
LL ₂	.152	.162	3.86	4.11
LS ₁	.210 BSC		5.33 BSC	
LS ₂	.105 BSC		2.67 BSC	
LW ₁	.370	.380	9.40	9.65
LW ₂	.135	.145	3.43	3.68
Q ₁	.030		0.76	
Q ₂	.035		0.89	
Term 1	Drain			
Term 2	Gate			
Term 3	Source			

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for information only.
3. The lid shall be electrically isolated from the drain, gate and source.
4. In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.

FIGURE 2. Dimensions and configuration of surface mount package outline (TO-267AB), 2N7236U.