

**N-CHANNEL MOSFET**  
 Qualified per MIL-PRF-19500/542

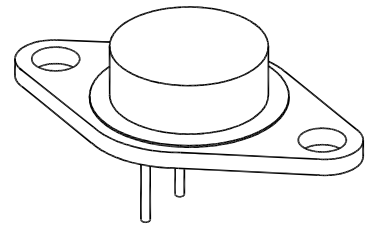
**DEVICES**

**2N6760**

**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	$V_{DS}$	400	Vdc
Gate – Source Voltage	$V_{GS}$	$\pm 20$	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	$I_{D1}$	5.5	Adc
Continuous Drain Current $T_C = +100^\circ\text{C}$	$I_{D2}$	3.5	Adc
Max. Power Dissipation $T_C = +25^\circ\text{C}$	$P_{tl}$	75 <sup>(1)</sup>	W
Drain to Source On State Resistance	$R_{ds(on)}$	1.0 <sup>(2)</sup>	$\Omega$
Operating & Storage Temperature	$T_{op}, T_{stg}$	-55 to +150	$^\circ\text{C}$



**TO-204AA**  
**(TO-3)**  
**2N6760**

**Note:** (1) Derated Linearly by 0.6 W/ $^\circ\text{C}$  for  $T_C > +25^\circ\text{C}$   
 (2)  $V_{GS} = 10\text{Vdc}$ ,  $I_D = 3.5\text{A}$

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
<b>OFF CHARACTERISTICS</b>				
Drain-Source Breakdown Voltage $V_{GS} = 0\text{V}$ , $I_D = 1\text{mA}$	$V_{(BR)DSS}$	400		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 $V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0\text{V}$ $V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0\text{V}$ , $T_j = +125^\circ\text{C}$	$I_{GSS1}$ $I_{GSS2}$		$\pm 100$ $\pm 200$	nAdc
Drain Current $V_{GS} = 0\text{V}$ , $V_{DS} = 320\text{V}$ $V_{GS} = 0\text{V}$ , $V_{DS} = 400\text{V}$ , $T_j = +125^\circ\text{C}$ $V_{GS} = 0\text{V}$ , $V_{DS} = 320\text{V}$ , $T_j = +125^\circ\text{C}$	$I_{DSS1}$ $I_{DSS2}$ $I_{DSS3}$		25 1.0 0.25	$\mu\text{Adc}$ mAdc mAdc
Static Drain-Source On-State Resistance $V_{GS} = 10\text{V}$ , $I_D = 3.5\text{A}$ pulsed $V_{GS} = 10\text{V}$ , $I_D = 5.5\text{A}$ pulsed $V_{GS} = 10\text{V}$ , $I_D = 3.5\text{A}$ pulsed, $T_j = +125^\circ\text{C}$	$r_{DS(on)1}$ $r_{DS(on)2}$ $r_{DS(on)3}$		1.0 1.22 2.2	$\Omega$ $\Omega$ $\Omega$
Diode Forward Voltage $V_{GS} = 0\text{V}$ , $I_D = 5.5\text{A}$ pulsed	$V_{SD}$		1.5	Vdc

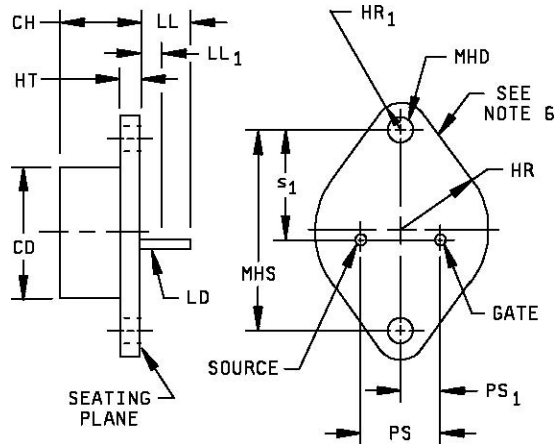
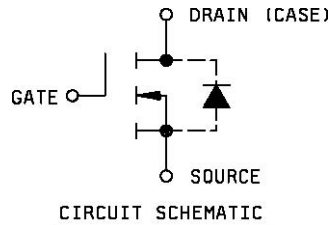
## DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate Charge:				
On-State Gate Charge	$Q_{g(on)}$		39	nC
Gate to Source Charge	$Q_{gs}$		6.0	
Gate to Drain Charge	$Q_{gd}$		20	

## SWITCHING CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Switching time tests:				
Turn-on delay time	$t_{d(on)}$ $t_r$ $t_{d(off)}$ $t_f$		30	ns
Rinse time			40	
Turn-off delay time			80	
Fall time			30	
Diode Reverse Recovery Time	$t_{rr}$		700	ns

## PACKAGE DIMENSIONS



### NOTES:

- 1 Dimensions are in inches.
- 2 Millimeters are given for general information only.
- 3 These dimensions should be measured at points .050 inch (1.27 mm) and .055 inch (1.40 mm) below seating plane. When gauge is not used measurement will be made at the seating plane.
- 4 The seating plane of the header shall be flat within .001 inch (0.03 mm) concave to .004 inch (0.10 mm) convex inside a .930 inch (23.62 mm) diameter circle on the center of the header and flat within .001 inch (0.03 mm) concave to .006 inch (0.15 mm) convex overall.
- 5 Mounting holes shall be deburred on the seating plane side.
- 6 Drain is electrically connected to the case.
- 7 In accordance with ASME Y14.5M, diameters are equivalent to  $\varnothing$ x symbology.

Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD		.875		22.23	
CH	.250	.360	6.35	9.14	
HR	.495	.525	12.57	13.34	
HR1	.131	.188	3.33	4.78	
HT	.060	.135	1.52	3.43	
LD	.038	.043	0.97	1.09	
LL	.312	.500	7.92	12.70	
LL1		.050		1.27	
MHD	.151	.161	3.84	4.09	
MHS	1.177	1.197	29.90	30.40	
PS	.420	.440	10.67	11.18	3, 5
PS1	.205	.225	5.21	5.72	3, 5
s1	.655	.675	16.64	17.15	

\* **FIGURE 1: Physical dimensions of transistor (TO-204AA).**