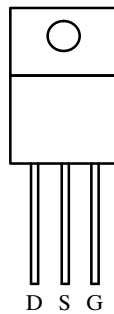


## N-Channel Enhancement-Mode Transistor

### Product Summary

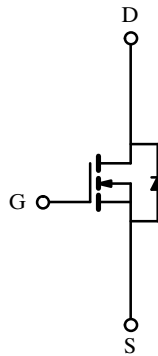
$V_{(BR)DSS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
200	0.10	28

TO-254AA  
Hermetic Package



Top View

Case Isolated



N-Channel MOSFET

### Absolute Maximum Ratings ( $T_C = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	$V_{DS}$	200	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ )	$I_D$	$T_C = 25^\circ\text{C}$	A
		$T_C = 100^\circ\text{C}$	
Pulsed Drain Current	$I_{DM}$	112	
Maximum Power Dissipation	$P_D$	$T_C = 25^\circ\text{C}$	W
		$T_C = 100^\circ\text{C}$	
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150	$^\circ\text{C}$
Lead Temperature ( $1/16''$ from case for 10 sec.)	$T_L$	300	

### Thermal Resistance Ratings

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient	$R_{thJA}$		50	$^\circ\text{C/W}$
Maximum Junction-to-Case	$R_{thJC}$		0.83	
Case-to-Sink	$R_{thCS}$	0.2		

# 2N7076

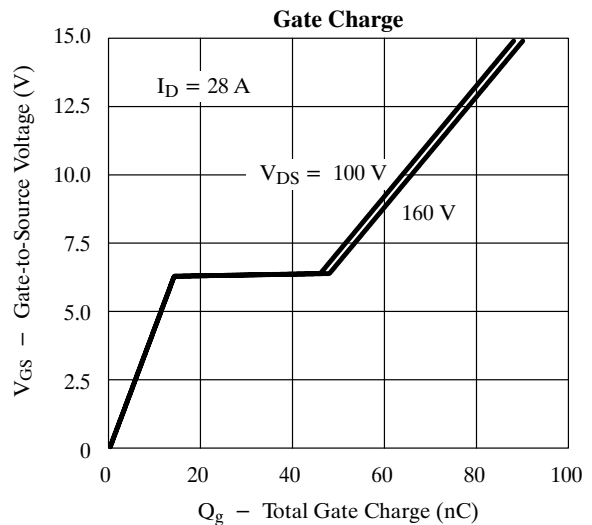
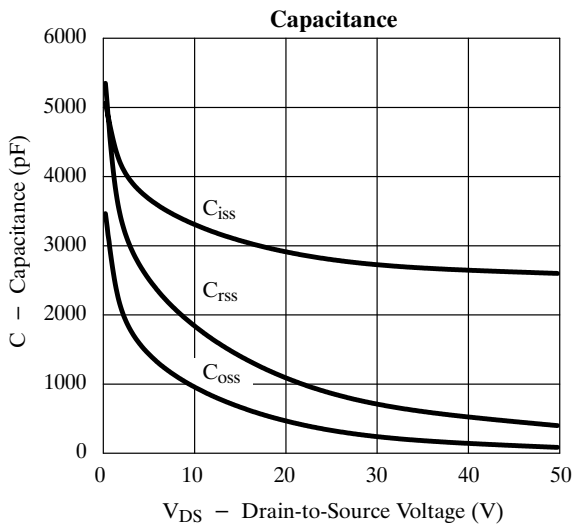
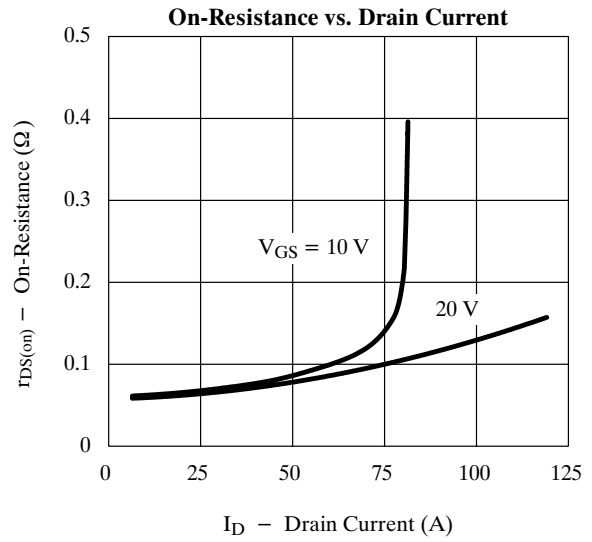
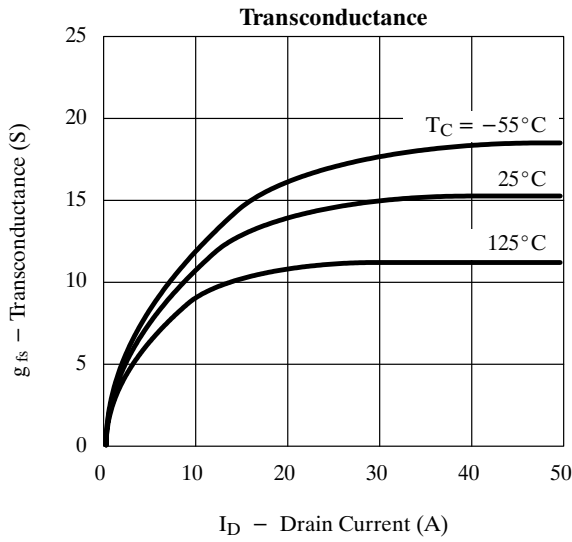
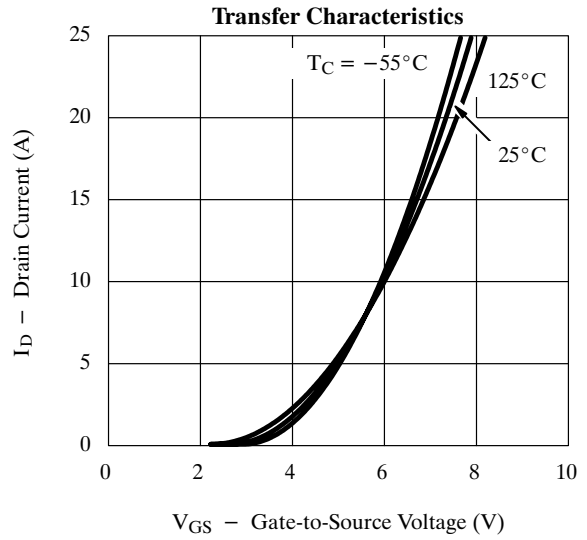
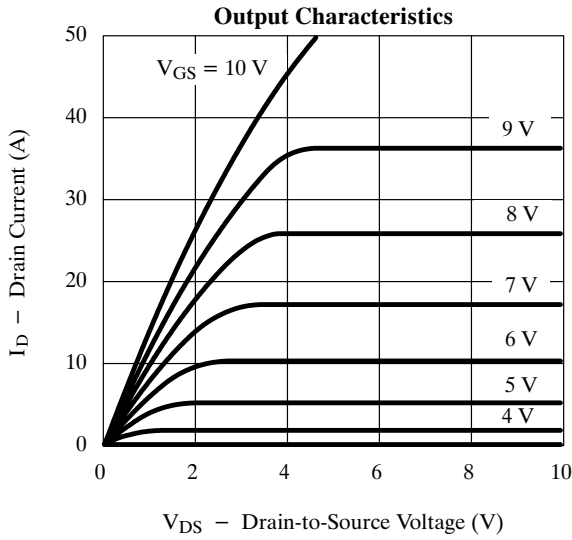
### Specifications ( $T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Limit			Unit
			Min	Typ <sup>a</sup>	Max	
<b>Static</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	200			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	2.0		4.0	
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 160\text{ V}, V_{GS} = 0\text{ V}$			25	$\mu\text{A}$
		$V_{DS} = 160\text{ V}, V_{GS} = 0\text{ V}, T_J = 125^\circ\text{C}$			250	
On-State Drain Current <sup>b</sup>	$I_{D(on)}$	$V_{DS} = 5\text{ V}, V_{GS} = 10\text{ V}$	28			A
Drain-Source On-State Resistance <sup>b</sup>	$r_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 18\text{ A}$		0.080	0.10	$\Omega$
		$V_{GS} = 10\text{ V}, I_D = 18\text{ A}, T_J = 125^\circ\text{C}$		0.15	0.17	
Forward Transconductance <sup>b</sup>	$g_{fs}$	$V_{DS} = 15\text{ V}, I_D = 18\text{ A}$	9.0	12	27	S
<b>Dynamic</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		2700		pF
Output Capacitance	$C_{oss}$			850		
Reverse Transfer Capacitance	$C_{rss}$			300		
Total Gate Charge <sup>c</sup>	$Q_g$	$V_{DS} = 100\text{ V}, V_{GS} = 10\text{ V}, I_D = 28\text{ A}$		63	115	nC
Gate-Source Charge <sup>c</sup>	$Q_{gs}$			14	21	
Gate-Drain Charge <sup>c</sup>	$Q_{gd}$			32	60	
Turn-On Delay Time <sup>c</sup>	$t_{d(on)}$	$V_{DD} = 100\text{ V}, R_L = 3.6\ \Omega$ $I_D \cong 28\text{ A}, V_{GEN} = 10\text{ V}, R_G = 2.4\ \Omega$		15	35	ns
Rise Time <sup>c</sup>	$t_r$			100	150	
Turn-Off Delay Time <sup>c</sup>	$t_{d(off)}$			70	125	
Fall Time <sup>c</sup>	$t_f$			50	100	
<b>Source-Drain Diode Ratings and Characteristics</b>						
Continuous Current	$I_S$				28	A
Pulsed Current	$I_{SM}$				112	
Diode Forward Voltage <sup>b</sup>	$V_{SD}$	$I_F = 28\text{ A}, V_{GS} = 0\text{ V}$	0.6		1.8	V
Reverse Recovery Time	$t_{rr}$	$I_F = 28\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$		175	650	ns
Reverse Recovery Charge	$Q_{rr}$			0.6		$\mu\text{C}$

**Notes:**

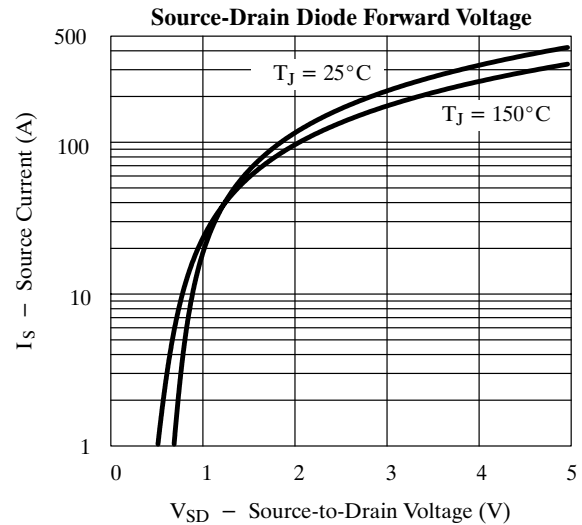
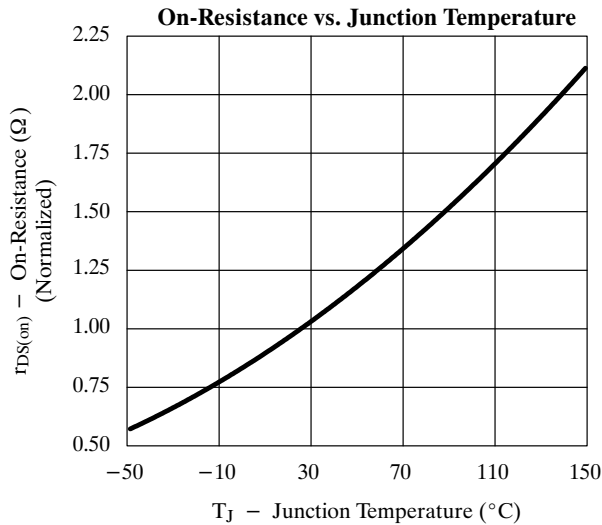
- For design aid only; not subject to production testing.
- Pulse test; pulse width, duty cycle.
- Independent of operating temperature.

## Typical Characteristics (25°C Unless Otherwise Noted)



## 2N7076

### Typical Characteristics (25°C Unless Otherwise Noted)



### Thermal Ratings

