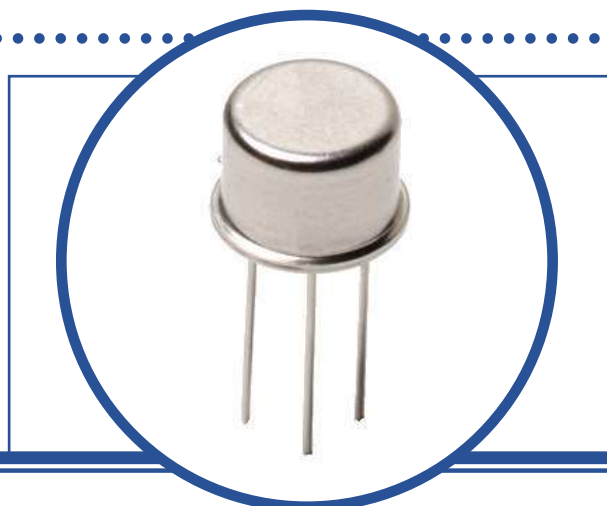


N-CHANNEL ENHANCEMENT MODE POWER MOSFET

2N6661

- $V_{DS} = 90V$, $I_D = 0.9A$, $R_{DS(ON)} = 4.0\Omega$
- Fast Switching
- Low Threshold Voltage (Logic Level)
- Low C_{ISS}
- Integral Source-Drain Body Diode
- Hermetic Metal TO39 Package
- High Reliability Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ C$ unless otherwise stated)

V_{DS}	Drain – Source Voltage		90V
V_{GS}	Gate – Source Voltage		$\pm 20V$
I_D	Continuous Drain Current	$T_C = 25^\circ C$	0.9A
I_{DM}	Pulsed Drain Current ⁽¹⁾		3.0A
P_D	Total Power Dissipation at	$T_C \leq 25^\circ C$	5W
		De-rate $T_C > 25^\circ C$	40mW/ $^\circ C$
P_D	Total Power Dissipation at	$T_A \leq 25^\circ C$	725mW
		De-rate $T_A > 25^\circ C$	5.8mW/ $^\circ C$
T_J	Operating Temperature Range		-55 to +150 $^\circ C$
T_{stg}	Storage Temperature Range		-65 to +150 $^\circ C$

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			25	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			172	$^\circ C/W$

Notes

- (1) Repetitive Rating: Pulse width limited by maximum junction temperature
(2) Pulse Width $\leq 300\mu s$, $\delta \leq 2\%$

N-CHANNEL ENHANCEMENT MODE POWER MOSFET 2N6661

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 1.0\mu\text{A}$	90			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 1.0\text{mA}$	0.8		2.0	V
		$T_C = 125^\circ\text{C}$	0.3			
		$T_C = -55^\circ\text{C}$			2.5	
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20\text{V}$ $V_{DS} = 0\text{V}$			± 100	nA
		$T_C = 125^\circ\text{C}$			± 500	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 72\text{V}$ $V_{GS} = 0$			1.0	μA
		$T_C = 125^\circ\text{C}$			100	
$I_{D(on)}^{(2)}$	On-State Drain Current	$V_{DS} = 10\text{V}$ $V_{GS} = 10\text{V}$	1.5			A
$R_{DS(on)}^{(2)}$	Static Drain-Source On-State Resistance	$V_{GS} = 5\text{V}$ $I_D = 0.3\text{A}$			5.3	Ω
		$V_{GS} = 10\text{V}$ $I_D = 1.0\text{A}$			4.0	
		$T_C = 125^\circ\text{C}$			7.5	
$V_{DS(on)}^{(2)}$	Static Drain-Source On-State Voltage	$V_{GS} = 5\text{V}$ $I_D = 0.3\text{A}$			1.6	V
		$V_{GS} = 10\text{V}$ $I_D = 1.0\text{A}$			4.0	
		$T_C = 125^\circ\text{C}$			7.5	
$g_{fs}^{(2)}$	Forward Transconductance	$V_{DS} = 7.5\text{V}$ $I_D = 0.475\text{A}$	170			$\text{m}\Omega$
$V_{SD}^{(2)}$	Body Diode Forward Voltage	$V_{GS} = 0$ $I_S = 0.86\text{A}$	0.7		1.4	V
$t_{rr}^{(2)}$	Body Diode Reverse Recovery	$V_{GS} = 0$ $I_S = 1.0\text{A}$		350		ns

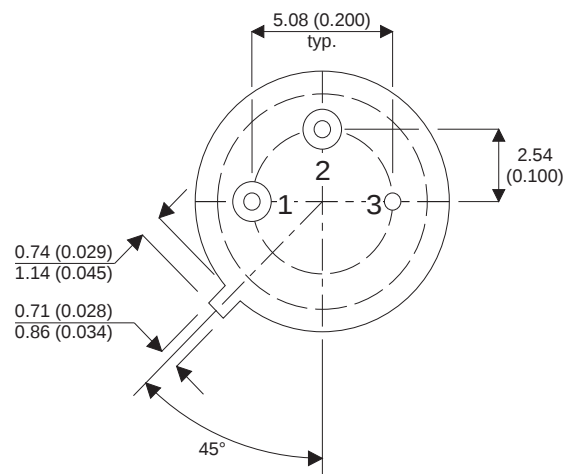
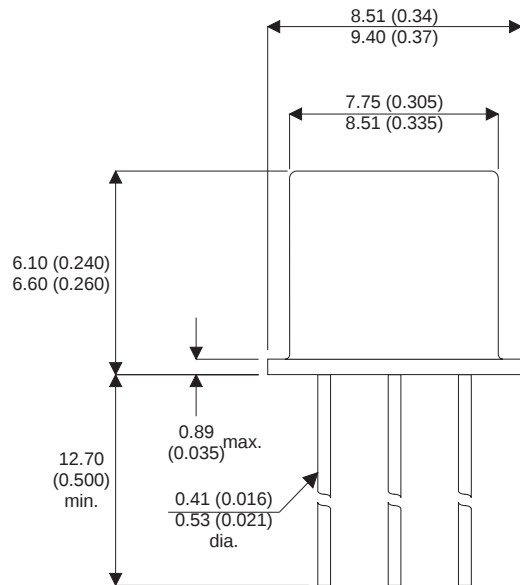
DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{GS} = 0$			50	pF
C_{oss}	Output Capacitance	$V_{DS} = 25\text{V}$			40	
C_{rss}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$			10	
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = 25\text{V}$			10	ns
$t_{d(off)}$	Turn-Off Delay Time	$I_D = 1.0\text{A}$ $R_G = 50\Omega$			10	

N-CHANNEL ENHANCEMENT MODE POWER MOSFET 2N6661

MECHANICAL DATA

Dimensions in mm (inches)



TO39 PACKAGE (TO-205AD)

Pin 1 - Source

Pin 2 - Gate

Pin 3 / Case - Drain