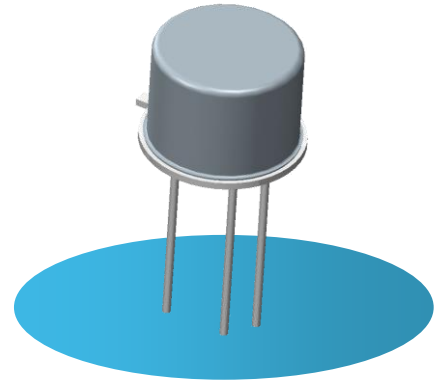


N-Channel Enhancement Mode Power MOSFET

2N6660

- Hermetic Metal TO39 (TO-205AD) Package
- $V_{DS} = 60V$, $I_D = 1.0A$, $R_{DS(ON)} = 3.0\Omega$
- Fast Switching, Low C_{ISS}
- Integral Source-Drain Body Diode
- High Reliability and Screening Options Available



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

V_{DS}	Drain - Source Voltage	60V
V_{GS}	Gate - Source Voltage	$\pm 20V$
$I_D^{(1)}$	Continuous Drain Current $T_C = 25^\circ C$	1.0A
$I_{DM}^{(1)}$	Pulsed Drain Current	3.0A
P_D	Total Power Dissipation at $T_C \leq 25^\circ C$	5W
	De-rate $T_C > 25^\circ C$	40mW/ $^\circ C$
	Total Power Dissipation at $T_A \leq 25^\circ C$	725mW
T_J	Operating Temperature Range	-65 to +150 $^\circ C$
	Storage Temperature Range	-65 to +150 $^\circ C$

THERMAL PROPERTIES

Symbols	Parameters	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) Limited by maximum junction temperature
- (2) Pulse Width $\leq 380\mu s$, $\delta \leq 2\%$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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N-Channel Enhancement Mode Power MOSFET

2N6660



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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 1.0\mu\text{A}$	60	90		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 1.0\text{mA}$	0.8	1.8	2.4	V
		$T_C = 125^\circ\text{C}$	0.3	1.5		
		$T_C = -55^\circ\text{C}$		2.0	2.6	
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20\text{V}$ $V_{DS} = 0\text{V}$		0.1	± 100	nA
		$T_C = 125^\circ\text{C}$		4	± 500	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{GS} = 0$ $V_{DS} = 48\text{V}$		0.008	1.0	μA
		$T_C = 125^\circ\text{C}$		0.1	100	
$I_{D(ON)}^{(2)}$	On-State Drain Current	$V_{DS} = 10\text{V}$ $V_{GS} = 10\text{V}$	1.5	3.7		A
$R_{DS(on)}^{(2)}$	Static Drain-Source On-State Resistance	$V_{GS} = 5\text{V}$ $I_D = 0.3\text{A}$		1.7	5.0	Ω
		$V_{GS} = 10\text{V}$ $I_D = 1.0\text{A}$		1.2	3.0	
		$T_C = 125^\circ\text{C}$		1.8	5.6	
$g_{fs}^{(2)}$	Forward Transconductance	$V_{DS} = 25\text{V}$ $I_D = 500\text{mA}$	170	530		$\text{m}\Omega$
$V_{SD}^{(2)}$	Body Diode Forward Voltage	$V_{GS} = 0$ $I_S = 1.0\text{A}$	0.7	1.0	1.6	V
$t_{rr}^{(2)}$	Body Diode Reverse Recovery	$V_{GS} = 0$ $I_S = 1.0\text{A}$		350		ns

DYNAMIC CHARACTERISTICS

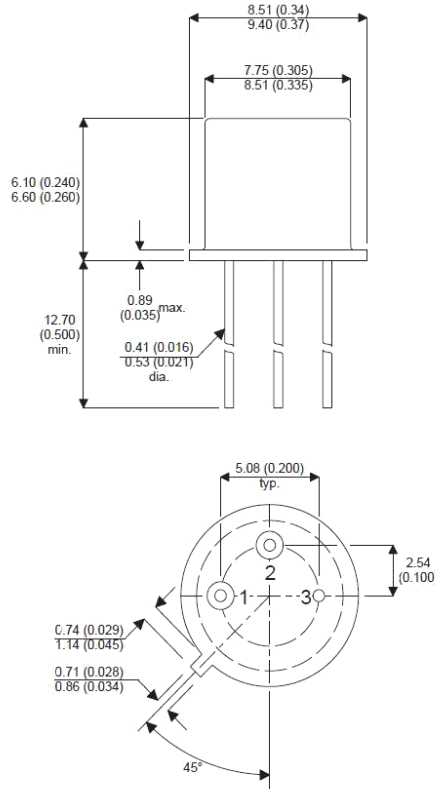
C_{iss}	Input Capacitance	$V_{GS} = 0$		52	75	pF
C_{oss}	Output Capacitance	$V_{DS} = 25\text{V}$		30	45	
C_{rss}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$		8	12	
$t_{d(on)}$	Turn-On Delay Time	$V_{DD} = 25\text{V}$		6	10	ns
$t_{d(off)}$	Turn-Off Delay Time	$I_D = 1.0\text{A}$ $R_G = 50\Omega$		8	12	

N-Channel Enhancement Mode Power MOSFET 2N6660



MECHANICAL DATA

Dimensions in mm (inches)



TO39 (TO-205AD)

Pin 1 - Source

Pin 2 - Gate

Pin 3 - Drain

Case - Drain

TERMINATION FINISH OPTIONS

Part Number Suffix	Material
2N6660	- Gold

