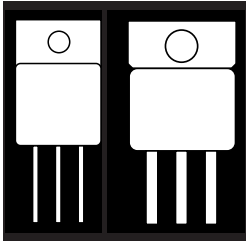


OM55N10SC OM60N10SC OM75N05SC OM75N06SC  
 OM55N10SA OM75N05SA OM75N06SA

# LOW VOLTAGE, LOW $R_{DS(on)}$ POWER MOSFETS IN HERMETIC ISOLATED PACKAGE



50V, 60V, And 100V Ultra Low  $R_{DS(on)}$   
 Power MOSFETs In TO-254 And TO-258  
 Isolated Packages

## FEATURES

- Isolated Hermetic Metal Packages
- Ultra Low  $R_{DS(on)}$
- Low Conductive Loss/Low Gate Charge
- Available Screened To MIL-S-19500, TX, TXV And S Levels
- Ceramic Feedthroughs available

## DESCRIPTION

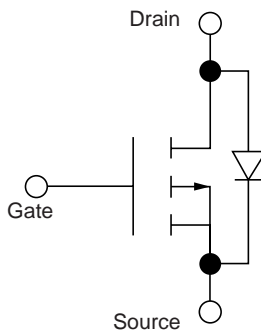
This series of hermetic packaged MOSFETs are ideally suited for low voltage applications; battery powered voltage power supplies, motor controls, dc to dc converters and synchronous rectification. The low conduction loss allows smaller heat sinking and the low gate change simpler drive circuitry.

## MAXIMUM RATINGS (Per Device)

PART NO.	$V_{DS}$ (V)	$R_{DS(on)}$ ( )	$I_D$ (A)	Package
OM60N10SC	100	.025	60	TO-258AA
OM55N10SC	100	.030	55	TO-258AA
OM55N10SA	100	.035	55	TO-254AA
OM75N06SC	60	.016	75	TO-258AA
OM75N06SA	60	.018	75	TO-254AA
OM75N05SC	50	.016	75	TO-258AA
OM75N05SA	50	.018	75	TO-254AA

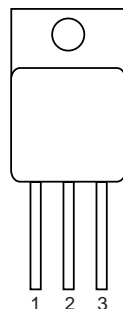
3.1

## SCHEMATIC



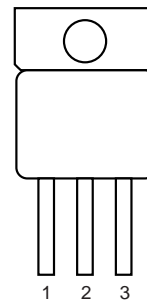
## PIN CONNECTION

TO-254AA



Pin 1: Drain  
 Pin 2: Source  
 Pin 3: Gate

TO-258AA



Pin 1: Drain  
 Pin 2: Source  
 Pin 3: Gate

## OM55N10SA - OM75N06SC

### ABSOLUTE MAXIMUM RATINGS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	60N10SC	55N10SA 55N10SC	75N06SA 75N06SC	75N05SA 75N05SC	Units
$V_{DS}$	100	100	60	50	V
$V_{DGR}$	100	100	60	50	V
$I_D @ T_C = 25^\circ\text{C}$	60	55	75	75	A
$I_D @ T_C = 100^\circ\text{C}$	37	33	45	45	A
$I_{DM}$	180	180	225	225	A
$P_D @ T_C = 25^\circ\text{C}$	130	125	125	125	W
$P_D @ T_C = 100^\circ\text{C}$	55	50	50	50	W
Junction-To-Case	1.00	1.00	1.00	1.00	W/ $^\circ\text{C}$
$T_J$	Operating and				$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range				
Lead Temperature	(1/16" from case for 10 secs.)				$^\circ\text{C}$

1 Pulse Test: Pulse width 300  $\mu\text{sec}$ . Duty Cycle 1.5%.

2 Package Limited: SA  $I_o = 25\text{A}$  & SC  $I_o = 35\text{A}$  @  $25^\circ\text{C}$

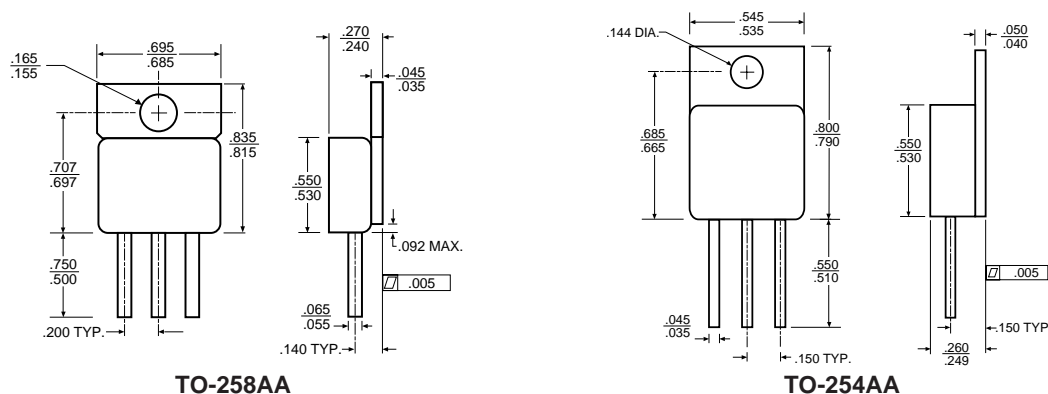
### THERMAL RESISTANCE

$R_{thJC}$	Junction-to-Case	1.0	$^\circ\text{C}/\text{W}$
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### PACKAGE LIMITATIONS

Parameters	TO254AA	TO-258AA	Unit
$I_D$	25	35	A
Linear Derating Factor, Junction-to-Ambient		.020	W/ $^\circ\text{C}$
$R_{thJA}$	50	40	$^\circ\text{C}/\text{W}$

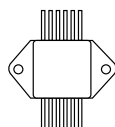
### MECHANICAL OUTLINE



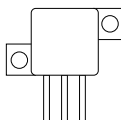
TO-258AA

TO-254AA

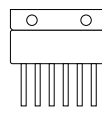
### PACKAGE OPTIONS



MOD PAK



Z-TAB



6 PIN SIP

Note: MOSFETs are also available in Z-Tab, dual and quad pak styles. Duals and quads available in non-gate versions only. Please call the factory for more information.

**OM60N10SC** ( $T_C = 25^\circ\text{C}$  unless otherwise specified)

Avalanche Characteristics		Min.	Typ.	Max.	Units	Test Conditions
$I_{AR}$	Avalanche Current			60	A	(repetitive or non-repetitive, $T_J = 25^\circ\text{C}$ )
$E_{AS}$	Single Pulse Avalanche Energy			720	mJ	(starting $T_J = 25^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 25\text{ V}$ )
$E_{AR}$	Repetitive Avalanche Energy			100	mJ	(pulse width limited by $T_{I,max}$ , $d < 1\%$ )
$I_{AR}$	Avalanche Current			37	A	(repetitive or non-repetitive, $T_J = 100^\circ\text{C}$ )
<b>Electrical Characteristics - OFF</b>						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	100			V	$I_D = 250\ \mu\text{A}$ , $V_{GS} = 0$
$I_{DSS}$	Zero Gate Voltage Drain Current ( $V_{GS} = 0$ )			250 1000	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.}$ $V_{DS} = \text{Max. Rat.} \times 0.8$ , $T_C = 125^\circ\text{C}$
$I_{GSS}$	Gate-Body Leakage Current ( $V_{DS} = 0$ )			$\pm 100$	nA	$V_{GS} = \pm 20\text{ V}$
<b>Electrical Characteristics - ON*</b>						
$V_{GS(th)}$	Gate Threshold Voltage	2		4	V	$V_{DS} = V_{GS}$ , $I_D = 250\ \mu\text{A}$
$R_{DS(on)}$	Static Drain-Source On Resistance			0.025 0.05		$V_{GS} = 10\text{ V}$ , $I_D = 30\text{ A}$ $T_C = 100^\circ\text{C}$
$I_{D(on)}$	On State Drain Current	60			A	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Dynamic</b>						
$g_{fs}$	Forward Transconductance	25			S	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $I_D = 30\text{ A}$
$C_{ies}$	Input Capacitance		4000		pF	$V_{DS} = 25\text{ V}$
$C_{oes}$	Output Capacitance		1100		pF	$V_{GS} = 0$
$C_{res}$	Reverse Transfer Capacitance		250		pF	$f = 1\text{ MHz}$
<b>Electrical Characteristics - Switching On</b>						
$T_{d(on)}$	Turn-On Time		90		nS	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$
$t_r$	Rise Time		270		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$(di/dt)_{on}$	Turn-On Current Slope		270		A/ $\mu\text{S}$	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$ $R_G = 50$ , $V_{GS} = 10\text{ V}$
$Q_g$	Total Gate Charge		120		nC	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Switching Off</b>						
$T_{r(off)}$	Off Voltage Rise Time		200		nS	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$
$t_f$	Fall Time		210		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$t_{cross}$	Cross-Over Time		410		nS	
<b>Electrical Characteristics - Source Drain Diode</b>						
$I_{SD}$	Source Drain Current			60	A	
$I_{SDM}^*$	Source Drain Current (pulsed)			240	A	
$V_{SD}$	Forward On Voltage			1.6	V	$I_{SD} = 60\text{ A}$ , $V_{GS} = 0$
$t_{rr}$	Reverse Recovery Time		180		nS	$I_{SD} = 60\text{ A}$ , $di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 80\text{ V}$
$Q_{rr}$	Reverse Recovery Charge		1.8		$\mu\text{C}$	
$I_{RRM}$	Reverse Recovery Current		10		A	

\*Pulsed: Pulse Duration 300 $\mu\text{s}$ , Duty Cycle 1.5%.

**OM55N10SC** ( $T_C = 25^\circ\text{C}$  unless otherwise specified)

Avalanche Characteristics		Min.	Typ.	Max.	Units	Test Conditions
$I_{AR}$	Avalanche Current			55	A	(repetitive or non-repetitive, $T_J = 25^\circ\text{C}$ )
$E_{AS}$	Single Pulse Avalanche Energy			600	mJ	(starting $T_J = 25^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 25\text{ V}$ )
$E_{AR}$	Repetitive Avalanche Energy			100	mJ	(pulse width limited by $T_{I,max}$ , $d < 1\%$ )
$I_{AR}$	Avalanche Current			37	A	(repetitive or non-repetitive, $T_J = 100^\circ\text{C}$ )
<b>Electrical Characteristics - OFF</b>						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	100			V	$I_D = 250\ \mu\text{A}$ , $V_{GS} = 0$
$I_{DSS}$	Zero Gate Voltage Drain Current ( $V_{GS} = 0$ )			250 1000	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.}$ $V_{DS} = \text{Max. Rat.} \times 0.8$ , $T_C = 125^\circ\text{C}$
$I_{GSS}$	Gate-Body Leakage Current ( $V_{DS} = 0$ )			$\pm 100$	nA	$V_{GS} = \pm 20\text{ V}$
<b>Electrical Characteristics - ON*</b>						
$V_{GS(th)}$	Gate Threshold Voltage	2		4	V	$V_{DS} = V_{GS}$ , $I_D = 250\ \mu\text{A}$
$R_{DS(on)}$	Static Drain-Source On Resistance			0.03 0.06		$V_{GS} = 10\text{ V}$ , $I_D = 30\text{ A}$ $T_C = 100^\circ\text{C}$
$I_{D(on)}$	On State Drain Current	55			A	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Dynamic</b>						
$g_{fs}$	Forward Transconductance	25			S	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $I_D = 30\text{ A}$
$C_{ies}$	Input Capacitance		4000		pF	$V_{DS} = 25\text{ V}$
$C_{oes}$	Output Capacitance		1100		pF	$V_{GS} = 0$
$C_{res}$	Reverse Transfer Capacitance		250		pF	$f = 1\text{ MHz}$
<b>Electrical Characteristics - Switching On</b>						
$T_{d(on)}$	Turn-On Time		90		nS	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$
$t_r$	Rise Time		270		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$(di/dt)_{on}$	Turn-On Current Slope		270		A/ $\mu\text{S}$	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$ $R_G = 50$ , $V_{GS} = 10\text{ V}$
$Q_g$	Total Gate Charge		120		nC	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Switching Off</b>						
$T_{r(off)}$	Off Voltage Rise Time		200		nS	$V_{DD} = 80\text{ V}$ , $I_D = 30\text{ A}$
$t_f$	Fall Time		210		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$t_{cross}$	Cross-Over Time		410		nS	
<b>Electrical Characteristics - Source Drain Diode</b>						
$I_{SD}$	Source Drain Current			55	A	
$I_{SDM}^*$	Source Drain Current (pulsed)			220	A	
$V_{SD}$	Forward On Voltage			1.5	V	$I_{SD} = 55\text{ A}$ , $V_{GS} = 0$
$t_{rr}$	Reverse Recovery Time		180		nS	$I_{SD} = 55\text{ A}$ , $di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 80\text{ V}$
$Q_{rr}$	Reverse Recovery Charge		1.8		$\mu\text{C}$	
$I_{RRM}$	Reverse Recovery Current		11		A	

\*Pulsed: Pulse Duration 300 $\mu\text{s}$ , Duty Cycle 1.5%.

**OM55N10SA** (T<sub>C</sub> = 25°C unless otherwise specified)

Avalanche Characteristics		Min.	Typ.	Max.	Units	Test Conditions
I <sub>AR</sub>	Avalanche Current			55	A	(repetitive or non-repetitive, T <sub>J</sub> = 25°C)
E <sub>AS</sub>	Single Pulse Avalanche Energy			600	mJ	(starting T <sub>J</sub> = 25°C, I <sub>D</sub> = I <sub>AR</sub> , V <sub>DD</sub> = 25 V)
E <sub>AR</sub>	Repetitive Avalanche Energy			100	mJ	(pulse width limited by T <sub>1max</sub> , d <sub>i</sub> < 1%)
I <sub>AR</sub>	Avalanche Current			37	A	(repetitive or non-repetitive, T <sub>J</sub> = 100°C)
<b>Electrical Characteristics - OFF</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	100			V	I <sub>D</sub> = 250 μA, V <sub>GS</sub> = 0
I <sub>DSS</sub>	Zero Gate Voltage Drain Current (V <sub>GS</sub> = 0)			250 1000	μA	V <sub>DS</sub> = Max. Rat. V <sub>DS</sub> = Max. Rat. x 0.8, T <sub>C</sub> = 125°C
I <sub>GSS</sub>	Gate-Body Leakage Current (V <sub>DS</sub> = 0)			±100	nA	V <sub>GS</sub> = ±20 V
<b>Electrical Characteristics - ON</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	2		4	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA
R <sub>DS(on)</sub>	Static Drain-Source On Resistance			0.035 0.070		V <sub>GS</sub> = 10 V, I <sub>D</sub> = 30 A T <sub>C</sub> = 100°C
I <sub>D(on)</sub>	On State Drain Current	55			A	V <sub>DS</sub> > I <sub>D(on)</sub> × R <sub>DS(on)max</sub> , V <sub>GS</sub> = 10 V
<b>Electrical Characteristics - Dynamic</b>						
g <sub>fs</sub>	Forward Transconductance	25			S	V <sub>DS</sub> > I <sub>D(on)</sub> × R <sub>DS(on)max</sub> , I <sub>b</sub> = 30 A
C <sub>ies</sub>	Input Capacitance		4000		pF	V <sub>DS</sub> = 25 V
C <sub>oss</sub>	Output Capacitance		1100		pF	V <sub>GS</sub> = 0
C <sub>res</sub>	Reverse Transfer Capacitance		250		pF	f = 1 MHz
<b>Electrical Characteristics - Switching On</b>						
T <sub>d(on)</sub>	Turn-On Time		90		nS	V <sub>DD</sub> = 80 V, I <sub>b</sub> = 30 A
t <sub>r</sub>	Rise Time		270		nS	R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
(di/dt) <sub>on</sub>	Turn-On Current Slope		270		A/μS	V <sub>DD</sub> = 80 V, I <sub>b</sub> = 30 A R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
Q <sub>g</sub>	Total Gate Charge		120		nC	V <sub>DD</sub> = 80 V, I <sub>b</sub> = 30 A, V <sub>GS</sub> = 10 V
<b>Electrical Characteristics - Switching Off</b>						
T <sub>r(Voff)</sub>	Off Voltage Rise Time		200		nS	V <sub>DD</sub> = 80 V, I <sub>b</sub> = 30 A
t <sub>f</sub>	Fall Time		210		nS	R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
t <sub>cross</sub>	Cross-Over Time		410		nS	
<b>Electrical Characteristics - Source Drain Diode</b>						
I <sub>SD</sub>	Source Drain Current			55	A	
I <sub>SDM</sub> *	Source Drain Current (pulsed)			180	A	
V <sub>SD</sub>	Forward On Voltage			1.5	V	I <sub>SD</sub> = 55 A, V <sub>GS</sub> = 0
t <sub>rr</sub>	Reverse Recovery Time		180		nS	I <sub>SD</sub> = 55 A, di/dt = 100 A/μs V <sub>R</sub> = 80 V
Q <sub>rr</sub>	Reverse Recovery Charge		1.8		μC	
I <sub>RRM</sub>	Reverse Recovery Current		11		A	

\*Pulsed: Pulse Duration 300μS, Duty Cycle 1.5%.

**OM75N06SC** (T<sub>C</sub> = 25°C unless otherwise specified)

Avalanche Characteristics		Min.	Typ.	Max.	Units	Test Conditions
I <sub>AR</sub>	Avalanche Current			70	A	(repetitive or non-repetitive, T <sub>J</sub> = 25°C)
E <sub>AS</sub>	Single Pulse Avalanche Energy			900	mJ	(starting T <sub>J</sub> = 25°C, I <sub>D</sub> = I <sub>AR</sub> , V <sub>DD</sub> = 25 V)
E <sub>AR</sub>	Repetitive Avalanche Energy			200	mJ	(pulse width limited by T <sub>1max</sub> , d <sub>i</sub> < 1%)
I <sub>AR</sub>	Avalanche Current			40	A	(repetitive or non-repetitive, T <sub>J</sub> = 100°C)
<b>Electrical Characteristics - OFF</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	60			V	I <sub>D</sub> = 250 μA, V <sub>GS</sub> = 0
I <sub>DSS</sub>	Zero Gate Voltage Drain Current (V <sub>GS</sub> = 0)			250 1000	μA	V <sub>DS</sub> = Max. Rat. V <sub>DS</sub> = Max. Rat. x 0.8, T <sub>C</sub> = 125°C
I <sub>GSS</sub>	Gate-Body Leakage Current (V <sub>DS</sub> = 0)			±100	nA	V <sub>GS</sub> = ±20 V
<b>Electrical Characteristics - ON</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	2		4	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA
R <sub>DS(on)</sub>	Static Drain-Source On Resistance			0.016 0.032		V <sub>GS</sub> = 10 V, I <sub>D</sub> = 40 A T <sub>C</sub> = 100°C
I <sub>D(on)</sub>	On State Drain Current	75			A	V <sub>DS</sub> > I <sub>D(on)</sub> × R <sub>DS(on)max</sub> , V <sub>GS</sub> = 10 V
<b>Electrical Characteristics - Dynamic</b>						
g <sub>fs</sub>	Forward Transconductance	25			S	V <sub>DS</sub> > I <sub>D(on)</sub> × R <sub>DS(on)max</sub> , I <sub>b</sub> = 40 A
C <sub>ies</sub>	Input Capacitance		4100		pF	V <sub>DS</sub> = 25 V
C <sub>oss</sub>	Output Capacitance		1800		pF	V <sub>GS</sub> = 0
C <sub>res</sub>	Reverse Transfer Capacitance		420		pF	f = 1 MHz
<b>Electrical Characteristics - Switching On</b>						
T <sub>d(on)</sub>	Turn-On Time		190		nS	V <sub>DD</sub> = 25 V, I <sub>b</sub> = 40 A
t <sub>r</sub>	Rise Time		900		nS	R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
(di/dt) <sub>on</sub>	Turn-On Current Slope		150		A/μS	V <sub>DD</sub> = 25 V, I <sub>b</sub> = 40 A R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
Q <sub>g</sub>	Total Gate Charge		130		nC	V <sub>DD</sub> = 25 V, I <sub>b</sub> = 40 A, V <sub>GS</sub> = 10 V
<b>Electrical Characteristics - Switching Off</b>						
T <sub>r(Voff)</sub>	Off Voltage Rise Time		360		nS	V <sub>DD</sub> = 40 V, I <sub>b</sub> = 75 A
t <sub>f</sub>	Fall Time		280		nS	R <sub>G</sub> = 50 , V <sub>GS</sub> = 10 V
t <sub>cross</sub>	Cross-Over Time		600		nS	
<b>Electrical Characteristics - Source Drain Diode</b>						
I <sub>SD</sub>	Source Drain Current			75	A	
I <sub>SDM</sub> *	Source Drain Current (pulsed)			300	A	
V <sub>SD</sub>	Forward On Voltage			1.5	V	I <sub>SD</sub> = 75 A, V <sub>GS</sub> = 0
t <sub>rr</sub>	Reverse Recovery Time		120		nS	I <sub>SD</sub> = 75 A, di/dt = 100 A/μs V <sub>R</sub> = 25 V
Q <sub>rr</sub>	Reverse Recovery Charge		0.45		μC	
I <sub>RRM</sub>	Reverse Recovery Current		6.5		A	

\*Pulsed: Pulse Duration 300μS, Duty Cycle 1.5%.

**OM75N06SA** ( $T_C = 25^\circ\text{C}$  unless otherwise specified)

**OM75N05SC** ( $T_C = 25^\circ\text{C}$  unless otherwise specified)

Avalanche Characteristics	Min.	Typ.	Max.	Units	Test Conditions
$I_{AR}$ Avalanche Current			70	A	(repetitive or non-repetitive, $T_J = 25^\circ\text{C}$ )
$E_{AS}$ Single Pulse Avalanche Energy			900	mJ	(starting $T_J = 25^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 25\text{ V}$ )
$E_{AR}$ Repetitive Avalanche Energy			200	mJ	(pulse width limited by $T_{Jmax}$ , $d < 1\%$ )
$I_{AR}$ Avalanche Current			40	A	(repetitive or non-repetitive, $T_J = 100^\circ\text{C}$ )
<b>Electrical Characteristics - OFF</b>					
$V_{(BR)DSS}$ Drain-Source Breakdown Voltage	60			V	$I_D = 250\ \mu\text{A}$ , $V_{GS} = 0$
$I_{DSS}$ Zero Gate Voltage Drain Current ( $V_{GS} = 0$ )			250 1000	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.}$ $V_{DS} = \text{Max. Rat.} \times 0.8$ , $T_C = 125^\circ\text{C}$
$I_{GSS}$ Gate-Body Leakage Current ( $V_{GS} = 0$ )			$\pm 100$	nA	$V_{GS} = \pm 20\text{ V}$
<b>Electrical Characteristics - ON*</b>					
$V_{GS(th)}$ Gate Threshold Voltage	2		4	V	$V_{DS} = V_{GS}$ , $I_D = 250\ \mu\text{A}$
$R_{DS(on)}$ Static Drain-Source On Resistance			0.018 0.036		$V_{GS} = 10\text{ V}$ , $I_D = 40\text{ A}$ $T_C = 100^\circ\text{C}$
$I_{D(on)}$ On State Drain Current	75			A	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Dynamic</b>					
$g_s$ Forward Transconductance	25			S	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $I_D = 40\text{ A}$
$C_{iss}$ Input Capacitance		4100		pF	$V_{DS} = 25\text{ V}$
$C_{oss}$ Output Capacitance		1800		pF	$V_{GS} = 0$
$C_{res}$ Reverse Transfer Capacitance		420		pF	$f = 1\text{ MHz}$
<b>Electrical Characteristics - Switching On</b>					
$T_{d(on)}$ Turn-On Time		190		nS	$V_{DD} = 25\text{ V}$ , $I_D = 40\text{ A}$
$t_r$ Rise Time		900		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$(di/dt)_{on}$ Turn-On Current Slope		150		A/ $\mu\text{S}$	$V_{DD} = 25\text{ V}$ , $I_D = 40\text{ A}$ $R_G = 50$ , $V_{GS} = 10\text{ V}$
$Q_g$ Total Gate Charge		130		nC	$V_{DD} = 25\text{ V}$ , $I_D = 40\text{ A}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Switching Off</b>					
$T_{r(Voff)}$ Off Voltage Rise Time		360		nS	$V_{DD} = 40\text{ V}$ , $I_D = 75\text{ A}$
$t_f$ Fall Time		280		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$t_{cross}$ Cross-Over Time		600		nS	
<b>Electrical Characteristics - Source Drain Diode</b>					
$I_{SD}$ Source Drain Current			75	A	
$I_{SDM}^*$ Source Drain Current (pulsed)			300	A	
$V_{SD}$ Forward On Voltage			1.5	V	$I_{SD} = 75\text{ A}$ , $V_{GS} = 0$
$t_{rr}$ Reverse Recovery Time		120		nS	$I_{SD} = 75\text{ A}$ , $di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 25\text{ V}$
$Q_{rr}$ Reverse Recovery Charge	0.45			$\mu\text{C}$	
$I_{RRM}$ Reverse Recovery Current	6.5			A	

\*Pulsed: Pulse Duration 300 $\mu\text{s}$ , Duty Cycle 1.5%.

Avalanche Characteristics	Min.	Typ.	Max.	Units	Test Conditions
$I_{AR}$ Avalanche Current			70	A	(repetitive or non-repetitive, $T_J = 25^\circ\text{C}$ )
$E_{AS}$ Single Pulse Avalanche Energy			900	mJ	(starting $T_J = 25^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 25\text{ V}$ )
$E_{AR}$ Repetitive Avalanche Energy			200	mJ	(pulse width limited by $T_{Jmax}$ , $d < 1\%$ )
$I_{AR}$ Avalanche Current			40	A	(repetitive or non-repetitive, $T_J = 100^\circ\text{C}$ )
<b>Electrical Characteristics - OFF</b>					
$V_{(BR)DSS}$ Drain-Source Breakdown Voltage	50			V	$I_D = 250\ \mu\text{A}$ , $V_{GS} = 0$
$I_{DSS}$ Zero Gate Voltage Drain Current ( $V_{GS} = 0$ )			250 1000	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.}$ $V_{DS} = \text{Max. Rat.} \times 0.8$ , $T_C = 125^\circ\text{C}$
$I_{GSS}$ Gate-Body Leakage Current ( $V_{GS} = 0$ )			$\pm 100$	nA	$V_{GS} = \pm 20\text{ V}$
<b>Electrical Characteristics - ON*</b>					
$V_{GS(th)}$ Gate Threshold Voltage	2		4	V	$V_{DS} = V_{GS}$ , $I_D = 250\ \mu\text{A}$
$R_{DS(on)}$ Static Drain-Source On Resistance			0.016 0.032		$V_{GS} = 10\text{ V}$ , $I_D = 40\text{ A}$ $T_C = 100^\circ\text{C}$
$I_{D(on)}$ On State Drain Current	75			A	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Dynamic</b>					
$g_s$ Forward Transconductance	25			S	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $I_D = 40\text{ A}$
$C_{iss}$ Input Capacitance		4100		pF	$V_{DS} = 25\text{ V}$
$C_{oss}$ Output Capacitance		1800		pF	$V_{GS} = 0$
$C_{res}$ Reverse Transfer Capacitance		420		pF	$f = 1\text{ MHz}$
<b>Electrical Characteristics - Switching On</b>					
$T_{d(on)}$ Turn-On Time		190		nS	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$
$t_r$ Rise Time		900		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$(di/dt)_{on}$ Turn-On Current Slope		150		A/ $\mu\text{S}$	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$ $R_G = 50$ , $V_{GS} = 10\text{ V}$
$Q_g$ Total Gate Charge		130		nC	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Switching Off</b>					
$T_{r(Voff)}$ Off Voltage Rise Time		360		nS	$V_{DD} = 35\text{ V}$ , $I_D = 75\text{ A}$
$t_f$ Fall Time		280		nS	$R_G = 50$ , $V_{GS} = 10\text{ V}$
$t_{cross}$ Cross-Over Time		600		nS	
<b>Electrical Characteristics - Source Drain Diode</b>					
$I_{SD}$ Source Drain Current			75	A	
$I_{SDM}^*$ Source Drain Current (pulsed)			300	A	
$V_{SD}$ Forward On Voltage			1.5	V	$I_{SD} = 75\text{ A}$ , $V_{GS} = 0$
$t_{rr}$ Reverse Recovery Time		120		nS	$I_{SD} = 75\text{ A}$ , $di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 20\text{ V}$
$Q_{rr}$ Reverse Recovery Charge	0.45			$\mu\text{C}$	
$I_{RRM}$ Reverse Recovery Current	6.5			A	

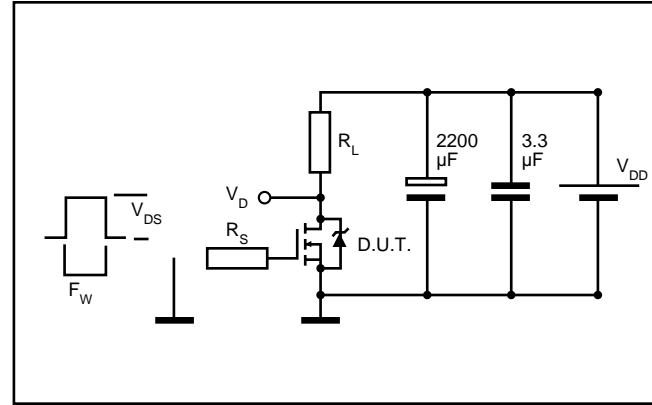
\*Pulsed: Pulse Duration 300 $\mu\text{s}$ , Duty Cycle 1.5%.

**OM75N05SA** ( $T_C = 25^\circ\text{C}$  unless otherwise specified)

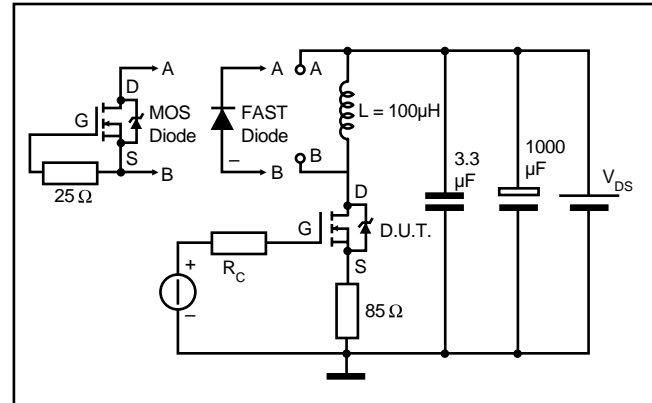
Avalanche Characteristics		Min.	Typ.	Max.	Units	Test Conditions
$I_{AR}$	Avalanche Current			70	A	(repetitive or non-repetitive, $T_J = 25^\circ\text{C}$ )
$E_{AS}$	Single Pulse Avalanche Energy			900	mJ	(starting $T_J = 25^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 25\text{ V}$ )
$E_{AR}$	Repetitive Avalanche Energy			200	mJ	(pulse width limited by $T_{Jmax}$ , $d < 1\%$ )
$I_{AR}$	Avalanche Current			40	A	(repetitive or non-repetitive, $T_J = 100^\circ\text{C}$ )
<b>Electrical Characteristics - OFF</b>						
$V_{BR(DSS)}$	Drain-Source Breakdown Voltage	50			V	$I_D = 250\ \mu\text{A}$ , $V_{GS} = 0$
$I_{DSS}$	Zero Gate Voltage Drain Current ( $V_{GS} = 0$ )			250	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.}$
$I_{GSS}$	Gate-Body Leakage Current ( $V_{DS} = 0$ )			1000	$\mu\text{A}$	$V_{DS} = \text{Max. Rat.} \times 0.8$ , $T_C = 125^\circ\text{C}$
				$\pm 100$	nA	$V_{GS} = \pm 20\text{ V}$
<b>Electrical Characteristics - ON</b>						
$V_{GS(th)}$	Gate Threshold Voltage	2		4	V	$V_{DS} = V_{GS}$ , $I_D = 250\ \mu\text{A}$
$R_{DS(on)}$	Static Drain-Source On Resistance			0.018		$V_{GS} = 10\text{ V}$ , $I_D = 40\text{ A}$
				0.036		$T_C = 100^\circ\text{C}$
$I_{D(on)}$	On State Drain Current	75			A	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Dynamic</b>						
$g_{fs}$	Forward Transconductance	25			S	$V_{DS} > I_{D(on)} \times R_{DS(on)max}$ , $I_D = 40\text{ A}$
$C_{iss}$	Input Capacitance		4100		pF	$V_{DS} = 25\text{ V}$
$C_{oss}$	Output Capacitance		1800		pF	$V_{GS} = 0$
$C_{riss}$	Reverse Transfer Capacitance		420		pF	$f = 1\text{ MHz}$
<b>Electrical Characteristics - Switching On</b>						
$T_{d(on)}$	Turn-On Time		190		nS	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$
$t_r$	Rise Time		900		nS	$R_G = 50\ \Omega$ , $V_{GS} = 10\text{ V}$
$(di/dt)_{on}$	Turn-On Current Slope		150		A/ $\mu\text{s}$	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$
						$R_G = 50\ \Omega$ , $V_{GS} = 10\text{ V}$
$Q_g$	Total Gate Charge		130		nC	$V_{DD} = 20\text{ V}$ , $I_D = 40\text{ A}$ , $V_{GS} = 10\text{ V}$
<b>Electrical Characteristics - Switching Off</b>						
$T_{r(off)}$	Off Voltage Rise Time		360		nS	$V_{DD} = 35\text{ V}$ , $I_D = 75\text{ A}$
$t_f$	Fall Time		280		nS	$R_G = 50\ \Omega$ , $V_{GS} = 10\text{ V}$
$t_{cross}$	Cross-Over Time		600		nS	
<b>Electrical Characteristics - Source Drain Diode</b>						
$I_{SD}$	Source Drain Current			75	A	
$I_{SDM}^*$	Source Drain Current (pulsed)			300	A	
$V_{SD}$	Forward On Voltage			1.5	V	$I_{SD} = 75\text{ A}$ , $V_{GS} = 0$
$t_{rr}$	Reverse Recovery Time		120		nS	$I_{SD} = 75\text{ A}$ , $di/dt = 100\text{ A}/\mu\text{s}$
$Q_{rr}$	Reverse Recovery Charge		0.45		$\mu\text{C}$	$V_R = 20\text{ V}$
$I_{RRM}$	Reverse Recovery Current		6.5		A	

\*Pulsed: Pulse Duration 300 $\mu\text{s}$ , Duty Cycle 1.5%.

**SWITCHING TIMES TEST CIRCUITS FOR RESISTIVE LOAD**

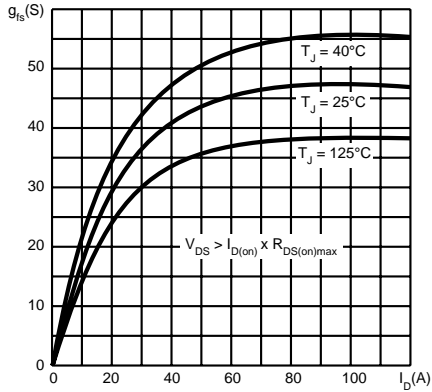


**TEST CIRCUIT FOR INDUCTIVE LOAD SWITCHING AND DIODE REVERSE RECOVERY TIME**

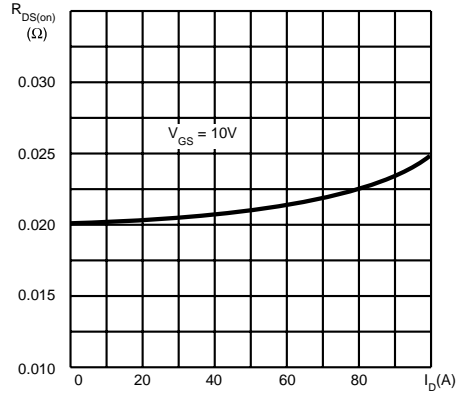


OM75N06SC, OM75N06SA, OM75N05SC, OM75N05SA

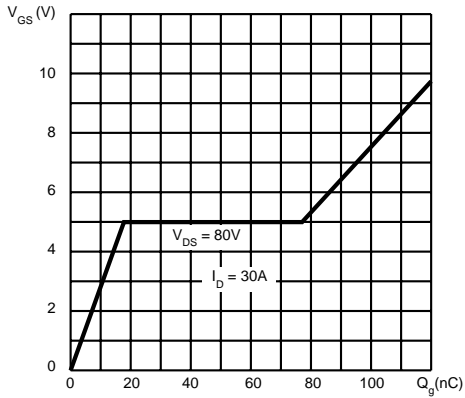
Transconductance



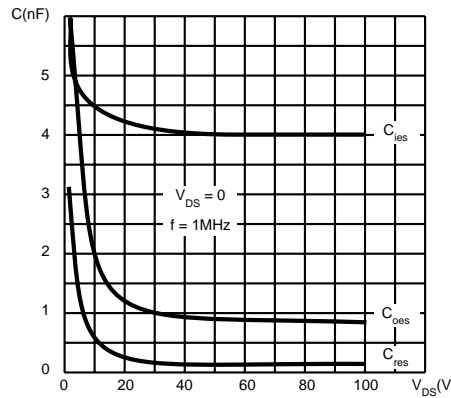
Static Drain-Source On Resistance



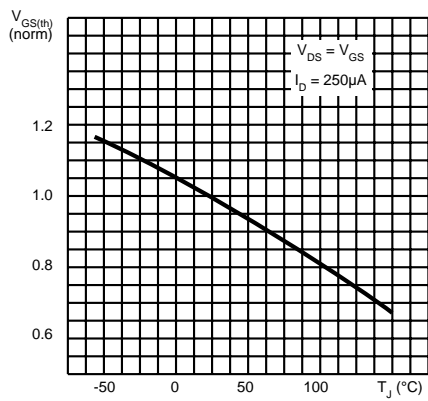
Gate Charge vs Gate-Source Voltage



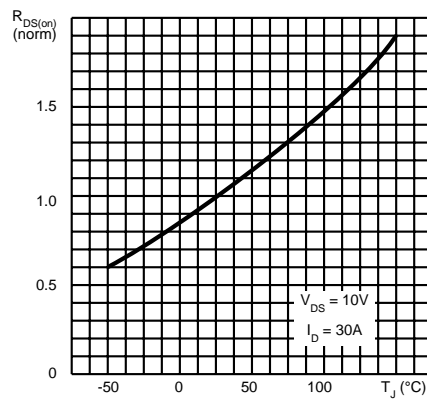
Capacitance Variations



Normalized Gate Threshold Voltage vs Temperature



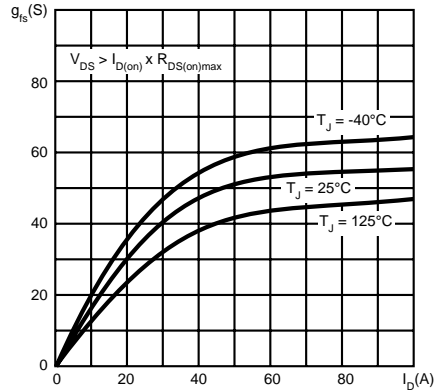
Normalized On Resistance vs Temperature



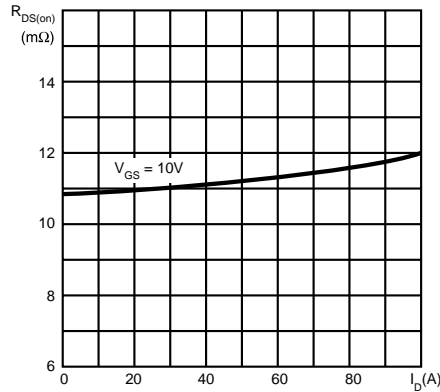
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OM75N06SC, OM75N06SA, OM75N05SC, OM75N05SA

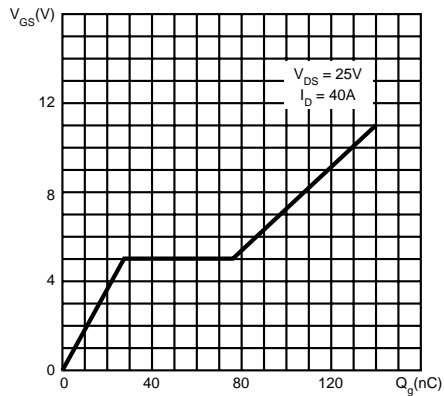
Transconductance



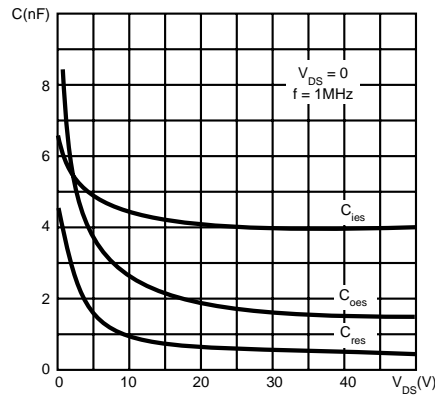
Static Drain-Source On Resistance



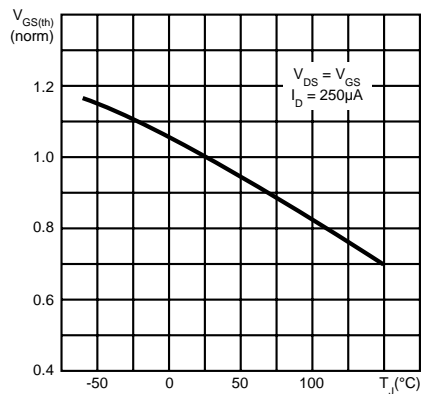
Gate Charge vs Gate-Source Voltage



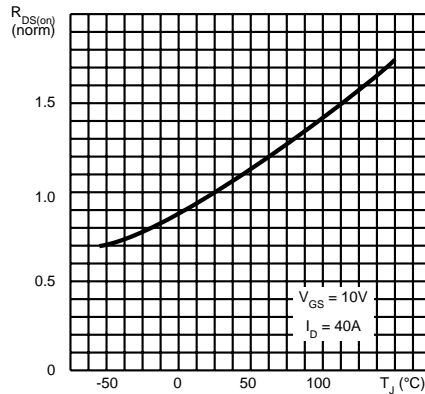
Capacitance Variations



Normalized Gate Threshold Voltage vs Temperature



Normalized On Resistance vs Temperature



3.1



单击下面可查看定价，库存，交付和生命周期等信息

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