

N-Channel JFET

2N4859 2N4859A
2N4860 2N4860A
2N4861 2N4861A

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Common Uses

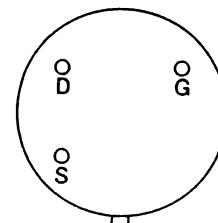
Analog switches
Multiplexer
Sample and hold
Choppers

Absolute Maximum Ratings (25 °C)

Gate-source - 30 V
Gate-drain - 30 V
Drain-source ± 30 V
Gate current 10 mA
Device dissipation
(at or below 25 °C free air temperature) 300 mW
Storage range - 65° to + 200 °C

Features

Low on resistance
High off resistance
Low C_{ps}
High speed switch



TO18

Bottom View

Electrical Characteristics (25 °C unless specified)

DC

Characteristic	Symbol	Test Conditions	2N4859 2N4859A		2N4860 2N4860A		2N4861 2N4861A		Units
			Min	Max	Min	Max	Min	Max	
1. Gate reverse current	I_{GSS}	$V_{DS} = 0, V_{GS} = -20 V$		-0.25		-0.25		-0.25	nA
2.		$T_A = 150 °C$		-0.5		-0.5		-0.5	μA
3. Gate-channel break-down voltage	BV_{GSS}	$V_{DS} = 0, I_G = -1 \mu A$	-30		-30		-30		V
4. Gate-source cut off voltage	$V_{GS} (off)$	$V_{DS} = 15 V, I_D = 0.5 nA$	-4	-10	-2	-6	-0.8	-4	
5. Drain-source voltage	$V_{DS} (on)$	$V_{GS} = 0$		0.75					
6.		$I_D = 20 mA$				0.5			
7.		$I_D = 10 mA$						0.5	
		$I_D = 5 mA$							
8. Saturation drain current (Note 1)	I_{DSS}	$V_{DS} = 15 V, V_{GS} = 0$	50		20	100	8	80	mA
9. Drain cut off current	$I_D (off)$	$V_{DS} = 15 V, V_{GS} = -10 V$		0.25		0.25		0.25	nA
10.		$T_A = 150 °C$		0.50		0.50		0.50	μA

AC

Characteristic	Symbol	Test Conditions		Min	Max	Min	Max	Min	Max	Units
11. Input capacitance	C_{iss}	$V_{DS} = 0, V_{GS} = -10 V$	2N4859-61		18		18		18	pF
12.		$f = 1 MHz$	2N4859A-61A		10		10		10	
13. Feedback capacitance	C_{rss}		2N4859-61		8		8		8	
14.			2N4859A-61A		4		3.5		3.5	
15. Drain-source on resistance	$r_{ds} (on)$	$V_{DS} = 0, I_D = 0$			25		40		60	ohms
		$f = 1 kHz$								

Switching

Characteristic	Symbol	Test Conditions		Min	Max	Min	Max	Min	Max	Units
16. Turn-on delay time	$t_d (on)$	$V_{DD} = 10 V, V_{GS} (on) = 0$			5		6		8	ns
17. Rise time	t_r	$I_D (on) \quad V_{GS} (off) \quad R_L$	2N4859, A	20 mA	-10 V	464 Ω	3	4	8	
18. Turn-off time	$t (off)$		2N4860, A	10 mA	-6 V	953 Ω		20	40	
			2N4861, A	5 mA	-4 V	1910 Ω			80	

Notes: 1. Pulse test required, pulse width = 300 μs , duty cycle $\leq 3\%$.

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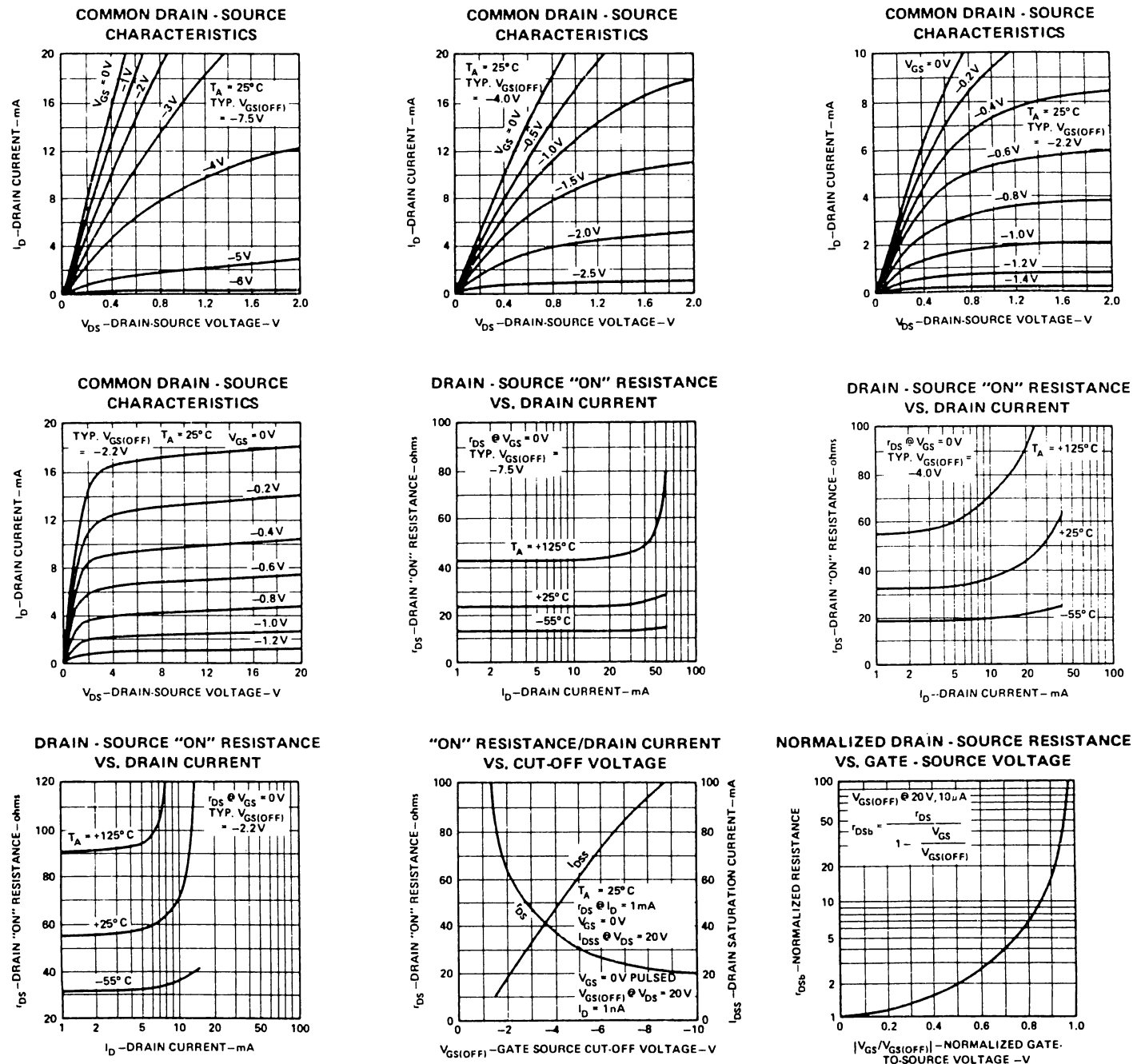
Analog switches
Chopper
Commutators

PACKAGES:

TO18

2N4856-61
2N4856A-61A

Typical Characteristics (25°C unless otherwise noted)



Packaging Information

TO-18
(3 PIN)

