

N-Channel JFET



SOLID STATE INC.

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

Common Uses

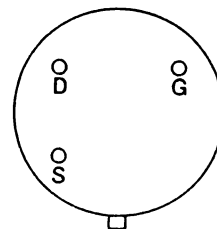
Analog switches
Multiplexer
Sample and hold
Choppers

Features

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

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



TO18

Bottom View

Electrical Characteristics (25 °C unless specified)

DC

			2N4859 2N4859A		2N4860 2N4860A		2N4861 2N4861A		Units
Characteristic	Symbol	Test Conditions	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	μ A
3. Gate-channel break-down voltage	BV_{GSS}	$V_{DS} = 0, I_G = -1$ μ 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	$V_{DS} (on)$	$V_{GS} = 0$ $I_D = 20$ mA		0.75					
6.		$I_D = 10$ mA				0.5			
7.		$I_D = 5$ mA						0.5	
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	μ A

AC

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

Switching

			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	$I_D (on) \quad V_{GS} (off) \quad R_L$		3		4		8	
18. Turn-off time	$t (off)$	2N4859, A 20 mA – 10 V 464 Ω		20		40		80	
		2N4860, A 10 mA – 6 V 953 Ω							
		2N4861, A 5 mA – 4 V 1910 Ω							

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

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FOR

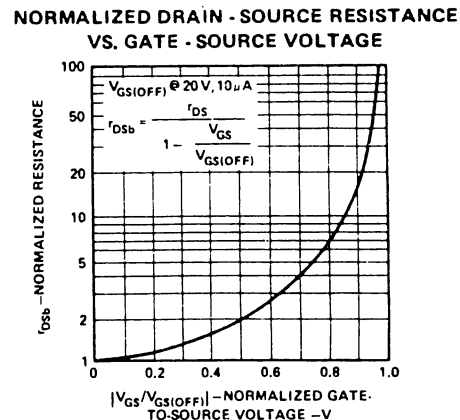
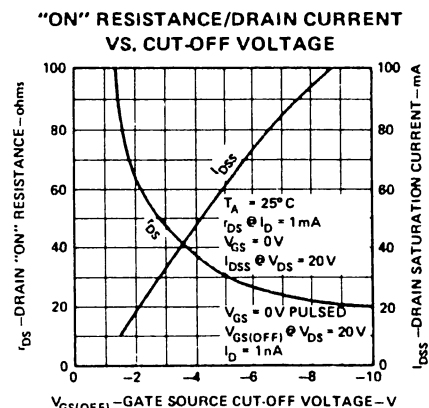
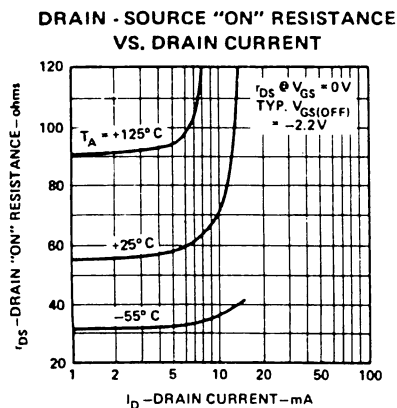
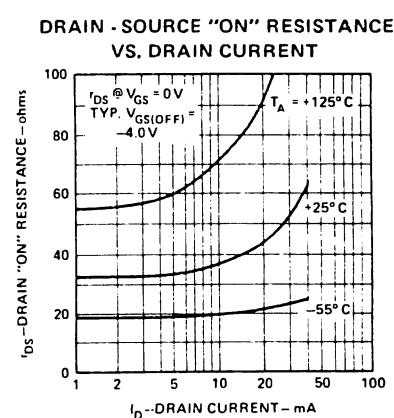
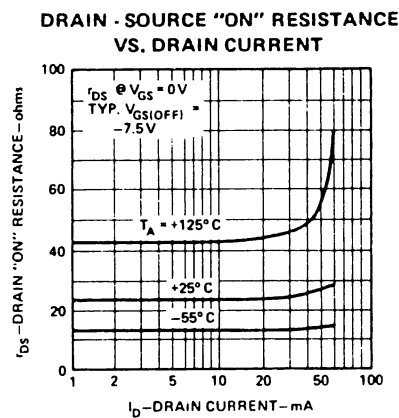
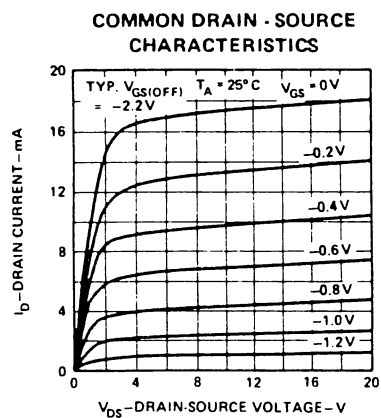
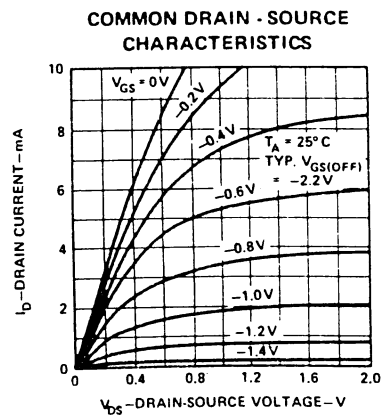
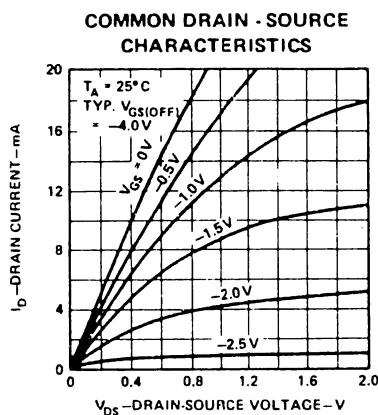
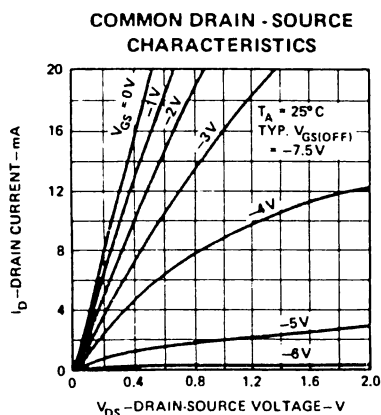
Analog switches
Chopper
Commutators

PACKAGES:

TO18

2N4856-61
2N4856A-61A

Typical Characteristics (25°C unless otherwise noted)



Packaging Information

TO-18
(3 PIN)

