

N-Channel JFET

2N4856 2N4856A
 2N4857 2N4857A
 2N4858 2N4858A

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Common Uses

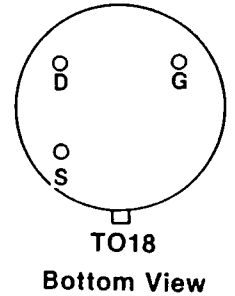
Analog switches
 Choppers
 Commutators

Absolute Maximum Ratings (25 °C)

Gate-source - 40 V
 Gate-drain - 40 V
 Drain-source ± 40 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
 High speed switch



Electrical Characteristics (25 °C unless specified)

DC

Characteristic	Symbol	Test Conditions	2N4856 2N4856A		2N4857 2N4857A		2N4858 2N4858A		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
3. Gate-channel break-down voltage	BV_{GSS}	$V_{DS} = 0, I_G = -1 \mu A$	-40		-40		-40		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 on voltage	$V_{DS (on)}$	$V_{GS} = 0$	$I_D = 20 mA$						
6.			$I_D = 10 mA$				0.50		
7.			$I_D = 5 mA$						0.50
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

AC

Characteristic	Symbol	Test Conditions	2N4856, 7, 8		2N4856A, 7A, 8A		2N4856, 7, 8		2N4856A, 7A, 8A		Units
			Min	Max	Min	Max	Min	Max			
11. Input capacitance	C_{iss}	$V_{DS} = 0, V_{GS} = -10 V$	$f = 1 MHz$			18		18		18	pF
12.			$f = 1 MHz$			10		10		10	
13. Feedback capacitance	C_{rss}	$V_{DS} = 0, V_{GS} = -10 V$	$f = 1 MHz$			8		8		8	
14.			$f = 1 MHz$			4		3.5		3.5	
15. Drain-source on resistance	$r_{ds (on)}$	$V_{DS} = 0, I_D = 0$		25		40		60		ohms	

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		
17. Rise time	t_r	$I_D (on) \quad V_{GS (off)} \quad R_L$		3		4		8	
18. Turn-off time	$t (off)$	2N4856, 6A 20 mA - 10 V 464 Ω 2N4857, 7A 10 mA - 6 V 953 Ω 2N4858, 8A 5 mA - 4 V 1910 Ω		20		40		80	

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

N-Channel JFET

FOR

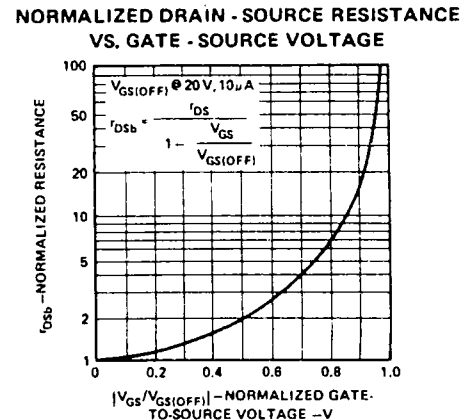
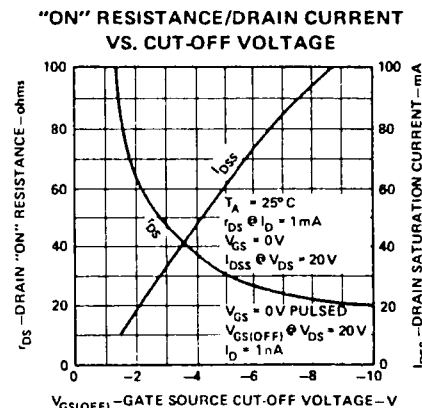
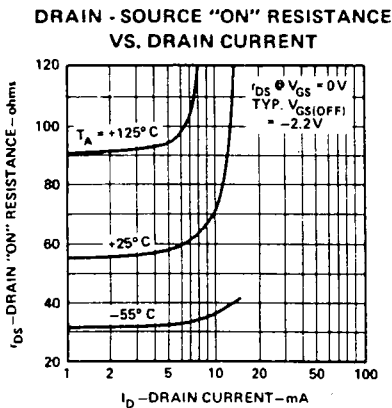
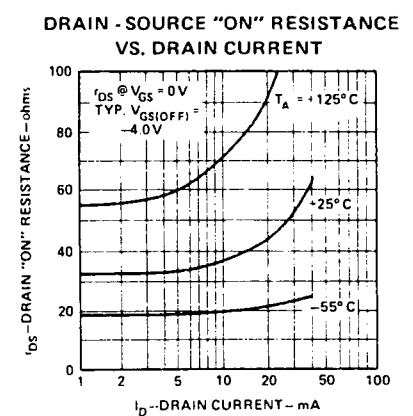
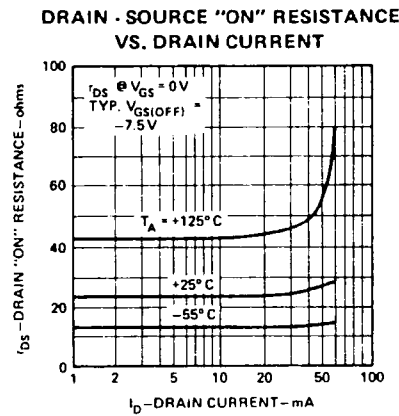
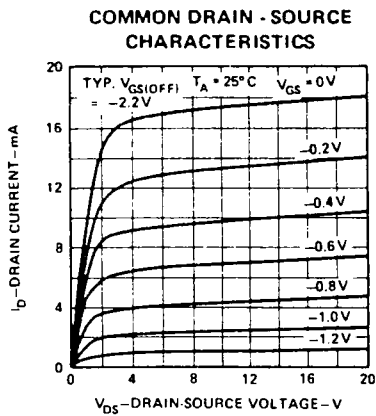
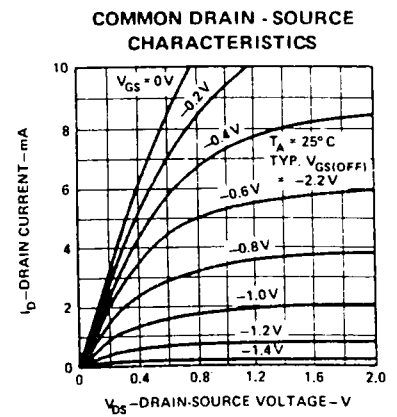
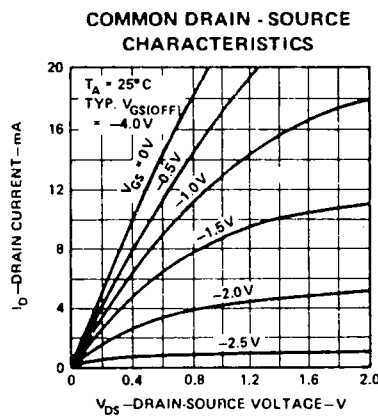
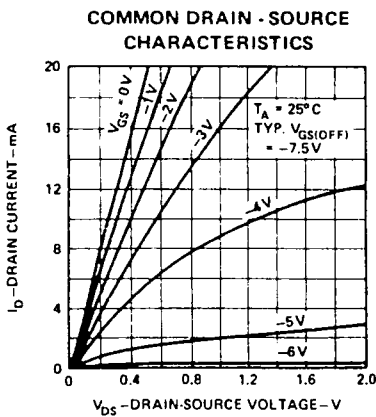
Analog switches
Chopper
Commutators

PACKAGES:

TO18

2N4856-61
2N4856A-61A

Typical Characteristics (25°C unless otherwise noted)



Packaging Information

TO-18
(3 PIN)

