

N-Channel JFET

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



SOLID STATE INC.

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Common Uses

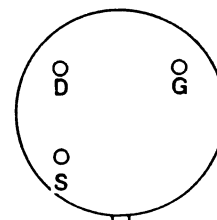
Analog switches
Choppers
Commutators

Features

Low on resistance
High off resistance
High speed switch

Absolute Maximum Ratings (25 °C)

Gate-source - 40 V
Gate-drain - 40 V
Drain-source $\pm$ 40 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

Characteristic		Symbol	Test Conditions	2N4856 2N4856A		2N4857 2N4857A		2N4858 2N4858A		Units
				Min	Max	Min	Max	Min	Max	
1.	Gate reverse current	I_{GSS}	$V_{DS} = 0, V_{GS} = -20 \text{ V}$		- 0.25		- 0.25		- 0.25	nA
2.					- 0.5		- 0.5		- 0.5	μ A
3.	Gate-channel break-down voltage	BV_{GSS}	$V_{DS} = 0, I_G = -1 \mu\text{A}$	- 40		- 40		- 40		V
4.	Gate-source cut off voltage	$V_{GS}(\text{off})$	$V_{DS} = 15 \text{ V}, I_D = 0.5 \text{ nA}$	- 4	- 10	- 2	- 6	0.8	4	
5.	Drain-source on voltage	$V_{DS}(\text{on})$	$V_{GS} = 0$		0.75					
6.							0.50			
7.									0.50	
8.	Saturation drain current (Note 1)	I_{DSS}	$V_{DS} = 15 \text{ V}, V_{GS} = 0$	50		20	100	8	80	mA
9.	Drain cut off current	$I_D(\text{off})$	$V_{DS} = 15 \text{ V}, V_{GS} = -10 \text{ V}$		0.25		0.25		0.25	nA
10.					0.50		0.50		0.50	μ A

AC

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

Switching

					Min	Max	Min	Max	Min	Max	Units
16.	Turn-on delay time	$t_d(\text{on})$	$V_{DD} = 10 \text{ V}, V_{GS}(\text{on}) = 0$			5		6		8	ns
17.	Rise time	t_r	$I_D(\text{on})$	$V_{GS}(\text{off})$		3		4		8	
18.	Turn-off time	$t(\text{off})$	2N4856, 6A	20 mA	- 10 V						
			2N4857, 7A	10 mA	- 6 V						
			2N4858, 8A	5 mA	- 4 V						

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

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FOR

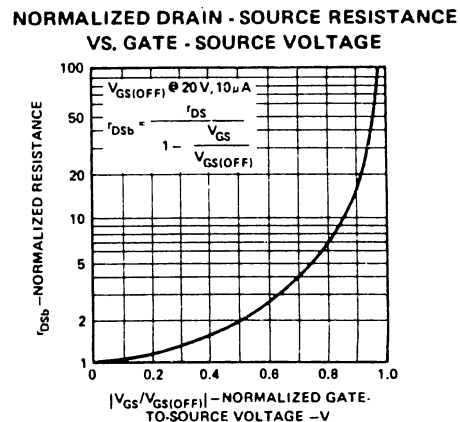
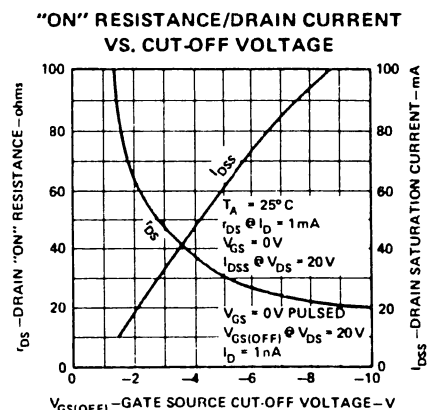
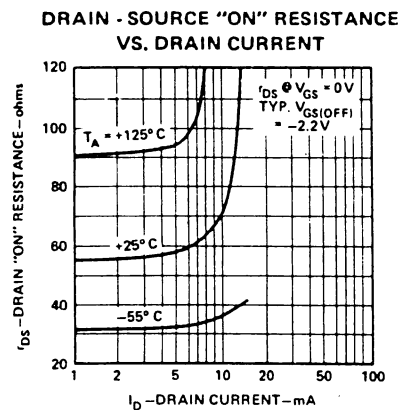
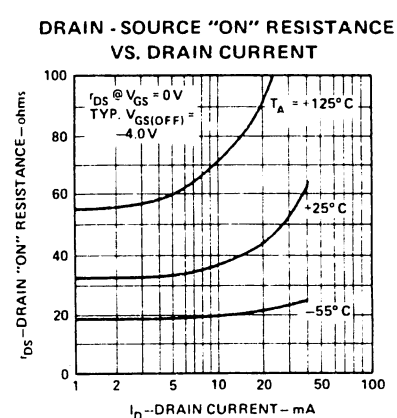
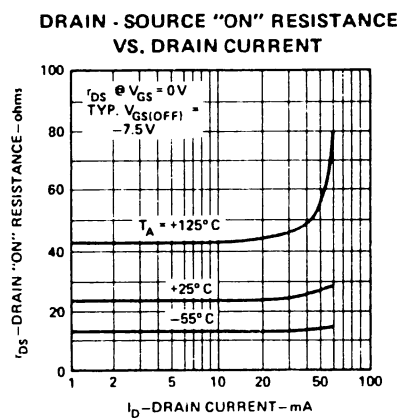
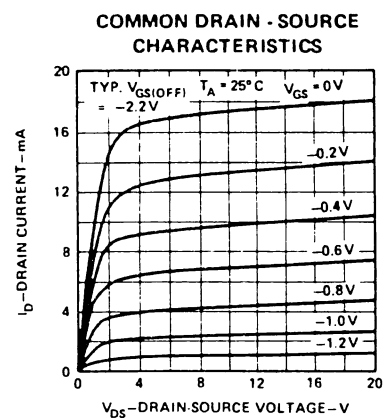
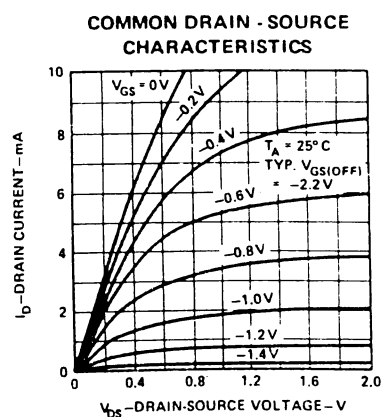
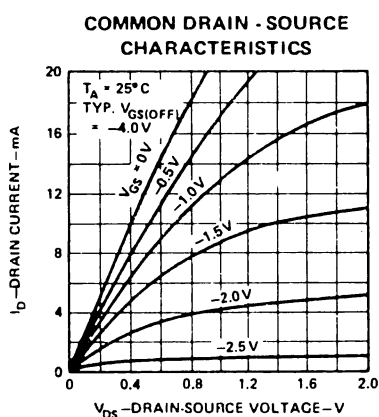
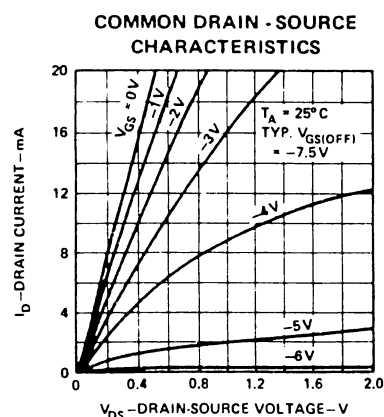
Analog switches
Chopper
Commutators

PACKAGES:

TO18

2N4856-61
2N4856A-61A

Typical Characteristics (25°C unless otherwise noted)



Packaging Information

TO-18
(3 PIN)

