

N-Channel JFET

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



SOLID STATE INC.

46 FARRAND STREET
BLOOMFIELD, NEW JERSEY 07003

www.solidstateinc.com

Common Uses

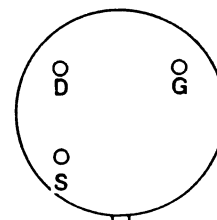
Analog switches
Choppers
Commutators

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 ± 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		2N4857		2N4858		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.					-0.5		-0.5		-0.5	μ A
3.	Gate-channel break-down voltage	BV_{GSS}	$V_{DS} = 0, I_G = -1$ μ 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	$V_{DS} (on)$	$V_{GS} = 0$		0.75					
6.							0.50			
7.									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.					0.50		0.50		0.50	μ A

AC

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

Switching

Switching					Min	Max	Min	Max	Min	Max	Units
16.	Turn-on delay time	t_d (on)	$V_{DD} = 10\text{ V}, V_{GS}(\text{on}) = 0$				5		6		ns
17.	Rise time	t_r	I_D (on)	V_{GS} (off)	R_L						
			2N4856, 6A	20 mA	− 10 V	464 Ω		3		4	
18.	Turn-off time	t (off)	2N4857, 7A	10 mA	− 6 V	953 Ω					
			2N4858, 8A	5 mA	− 4 V	1910 Ω			20		40

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

N-Channel JFET

FOR

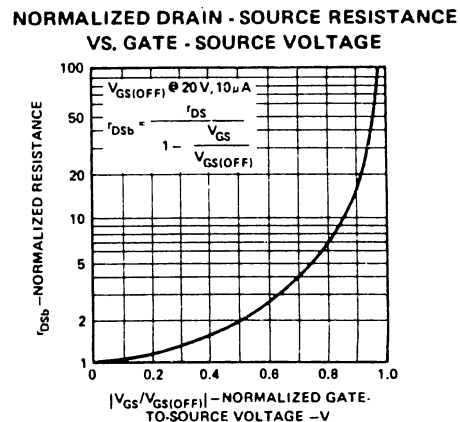
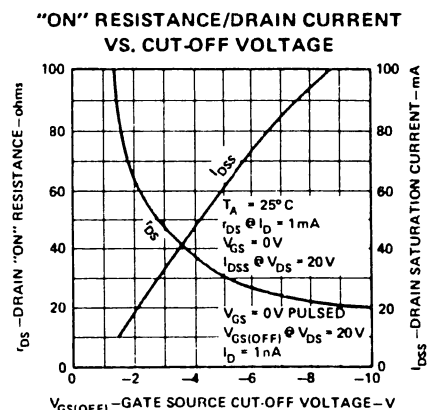
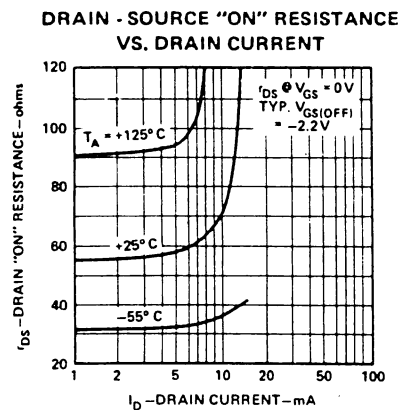
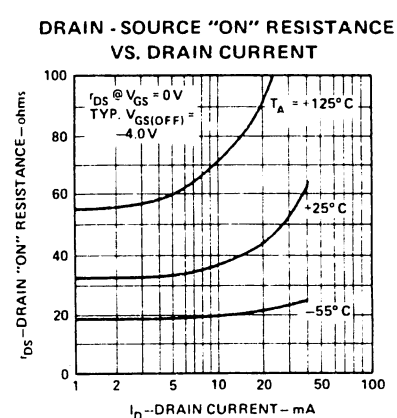
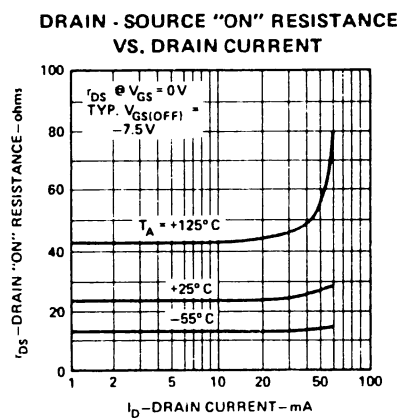
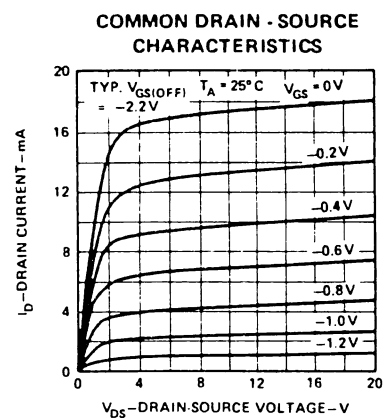
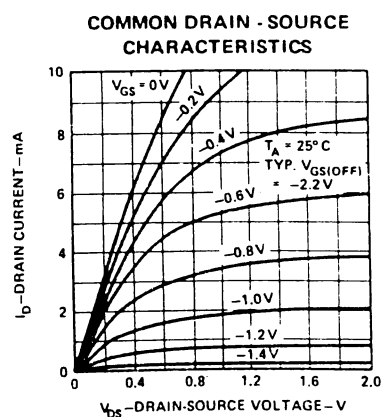
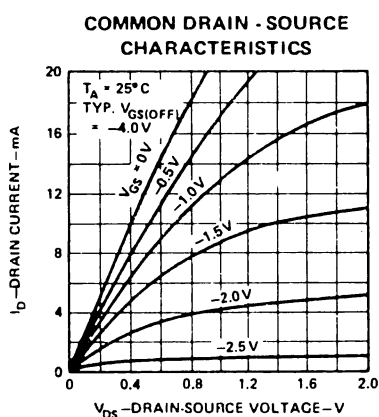
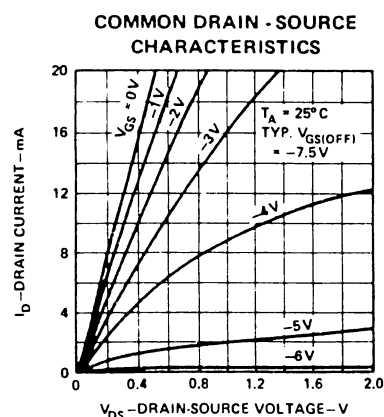
Analog switches
Chopper
Commutators

PACKAGES:

TO18

2N4856-61
2N4856A-61A

Typical Characteristics (25°C unless otherwise noted)



Packaging Information

TO-18
(3 PIN)

