

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	Value	Units
Gate drain voltage	V_{GD}	30	V
Gate source voltage	V_{GS}	30	V
Gate current	I_{GS}	-50	mA
Storage temperature range	T_{stg}	-65 to +200	°C
Operating junction temperature range	T_j	-55 to +200	°C
Lead temperature (1/16" from case for 10s)	T_L	300	°C
Power dissipation Derate above 25°C	P_D	500 3	mW mW/°C

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	2N5114		2N5115		2N5116		Unit
		Min	Max	Min	Max	Min	Max	
Gate source breakdown voltage $I_G = 1.0\mu\text{A}$, $V_{DS} = 0$	$V_{(BR)GSS}$	30	-	30	-	30	-	V
Gate source cutoff voltage $V_{DS} = -15\text{V}$, $I_D = -1\text{nA}$	$V_{GS(off)}$	5	10	3	6	1	4	V
Saturation drain current ⁽¹⁾ $V_{GS} = 0$, $V_{DS} = -18\text{V}$ $V_{GS} = 0$, $V_{DS} = -15\text{V}$	I_{DSS}	-30	-90	-	-	-	-	mA
Gate reverse current $V_{GS} = 20\text{V}$, $V_{DS} = 0$ $V_{GS} = 20\text{V}$, $V_{DS} = 0$, $T_A = 150^\circ\text{C}$	I_{GSS}	-	500	-	500	-	500	pA μA
Drain cutoff current $V_{DS} = -15\text{V}$, $V_{GS} = 12\text{V}$ $V_{DS} = -15\text{V}$, $V_{GS} = 7\text{V}$ $V_{DS} = -15\text{V}$, $V_{GS} = 5\text{V}$ $V_{DS} = -15\text{V}$, $V_{GS} = 12\text{V}$, $T_A = 150^\circ\text{C}$ $V_{DS} = -15\text{V}$, $V_{GS} = 7\text{V}$, $T_A = 150^\circ\text{C}$ $V_{DS} = -15\text{V}$, $V_{GS} = 5\text{V}$, $T_A = 150^\circ\text{C}$	$I_{D(off)}$	-	-500	-	-	-	-	pA pA pA μA μA μA
Drain source on-voltage $V_{GS} = 0$, $I_D = -15\text{mA}$ $V_{GS} = 0$, $I_D = -7\text{mA}$ $V_{GS} = 0$, $I_D = -3\text{mA}$	$V_{DS(on)}$	-	-1.3	-	-	-	-	V

2N5114-2N5116

P-CHANNEL JFETS

Characteristic	Symbol	2N5114		2N5115		2N5116		Unit
		Min	Max	Min	Max	Min	Max	
Drain source on resistance $V_{GS} = 0, I_D = -1mA$	$r_{DS(on)}$	-	75	-	100	-	150	Ω
Gate source forward voltage $I_G = -1mA, V_{DS} = 0$	$V_{GS(F)}$	-	-1	-	-1	-	-1	V
Drain source on resistance $V_{GS} = 0V, I_D = 0, f = 1kHz$	$r_{ds(on)}$	-	75	-	100	-	150	Ω
Common source input capacitance $V_{DS} = -15V, V_{GS} = 0, f = 1MHz$	C_{iss}	-	25	-	25	-	25	pF
Common source reverse transfer capacitance $V_{DS} = 0, V_{GS} = 12V, f = 1MHz$ $V_{DS} = 0, V_{GS} = 7V, f = 1MHz$ $V_{DS} = 0, V_{GS} = 5V, f = 1MHz$	C_{rss}	-	7	-	-	-	-	pF
		-	-	-	7	-	-	
		-	-	-	-	-	7	
Turn on time	$t_{d(on)}$	-	6	-	10	-	12	ns
	t_r	-	10	-	20	-	30	
Turn off time	$t_{d(off)}$	-	6	-	8	-	10	
	t_r	-	15	-	30	-	50	

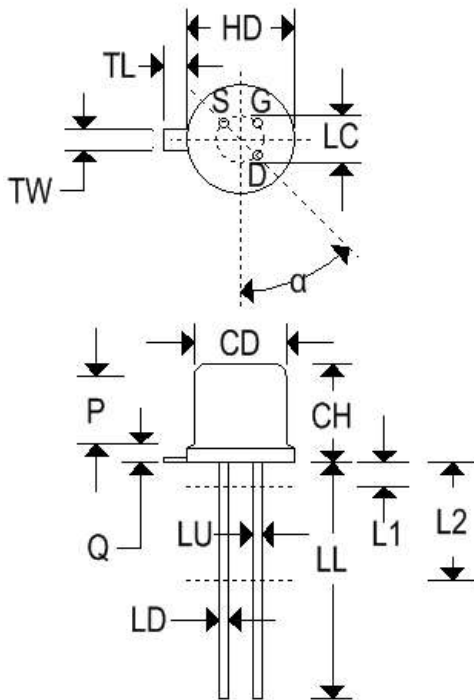
Note 1: Pulse test: $PW \leq 300\mu s$, duty cycle $\leq 3\%$.

2N5114-2N5116

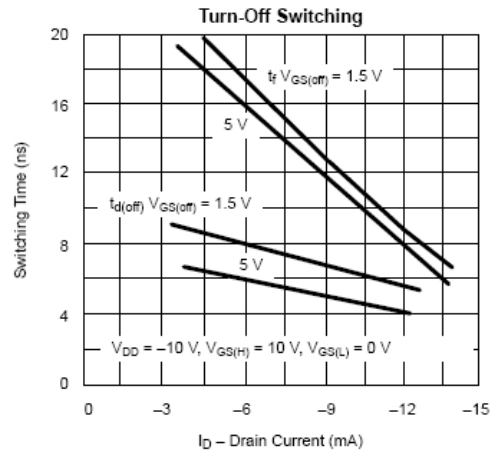
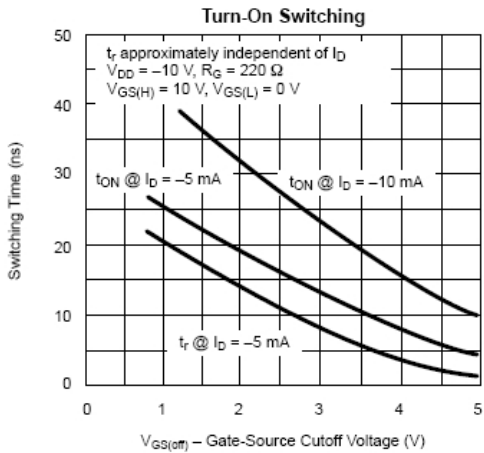
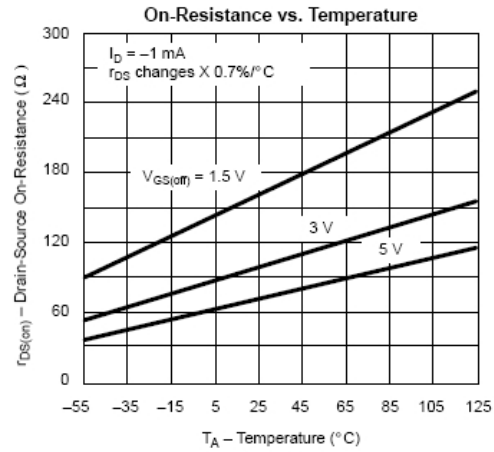
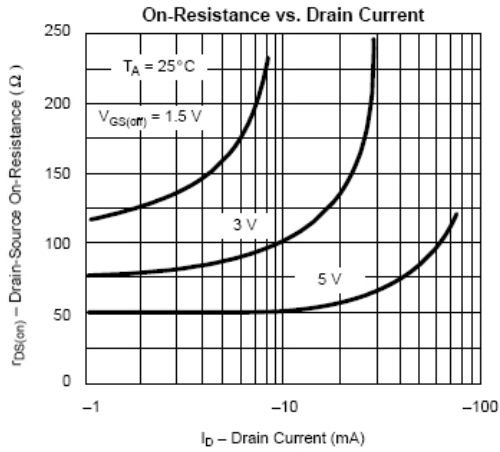
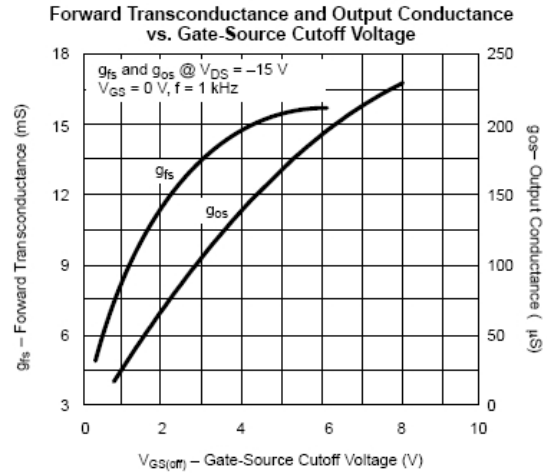
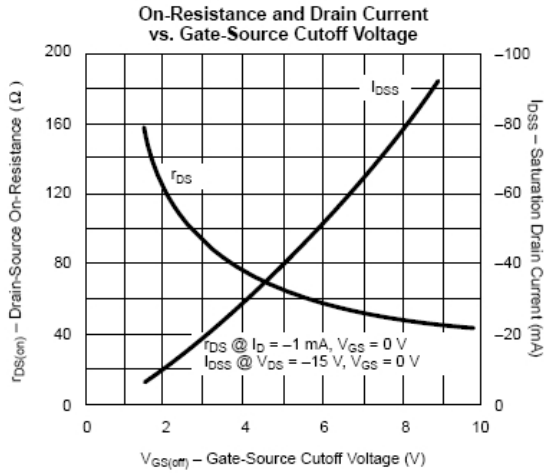
P-CHANNEL JFETS

MECHANICAL CHARACTERISTICS

Case	TO-18(DGS)
Marking	Alpha-numeric
Pin out	See below
Gate is connected to case	

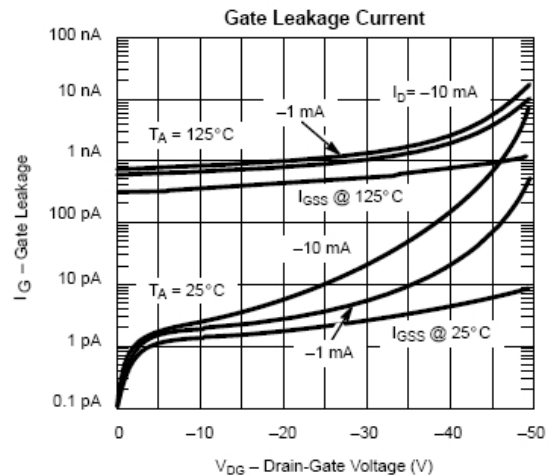
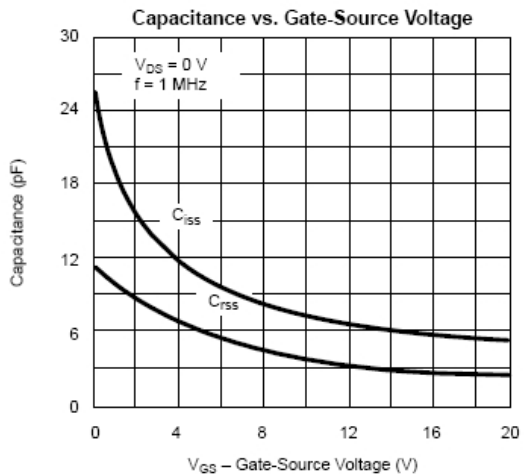
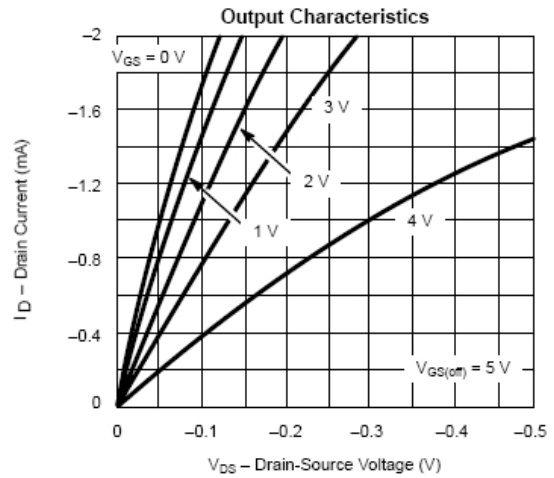
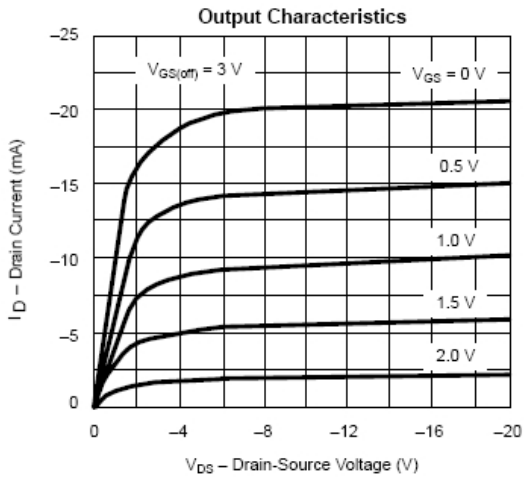
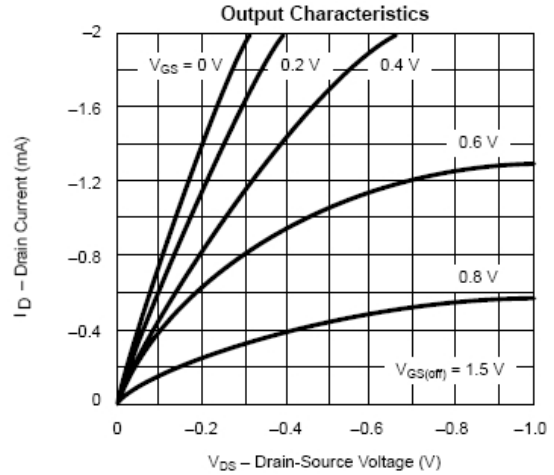
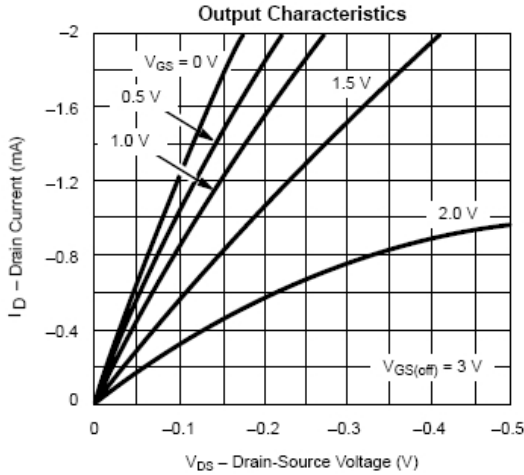


TO-18 (DGS)				
Dim	Inches		Millimeters	
	Min	Max	Min	Max
CD	0.178	0.195	4.520	4.950
CH	0.170	0.210	4.320	5.330
HD	0.209	0.230	5.310	5.840
LC	0.100 TP		2.540 TP	
LD	0.016	0.021	0.410	0.530
LL	0.500	0.750	12.700	19.050
LU	0.016	0.019	0.410	0.480
L1	-	0.050	-	1.270
L2	0.250	-	6.350	-
P	0.100	-	2.540	-
Q	-	0.040	-	1.020
TL	0.028	0.048	0.710	1.220
TW	0.036	0.046	0.910	1.170
r	-	0.010	-	0.025
α	45°TP		45°TP	



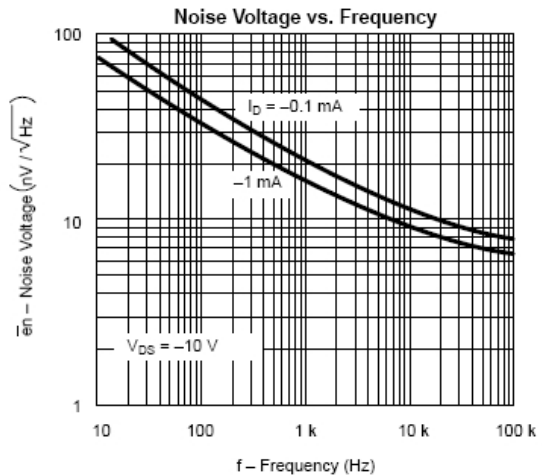
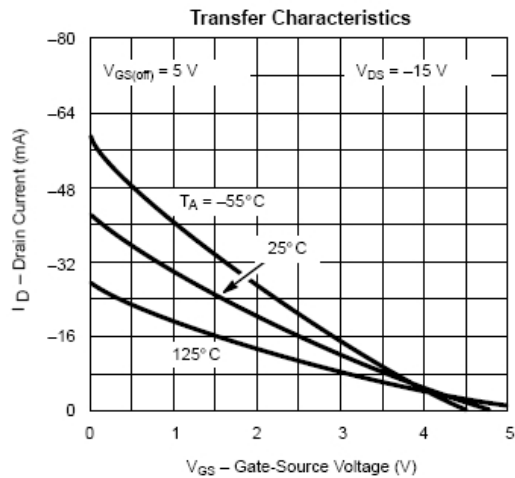
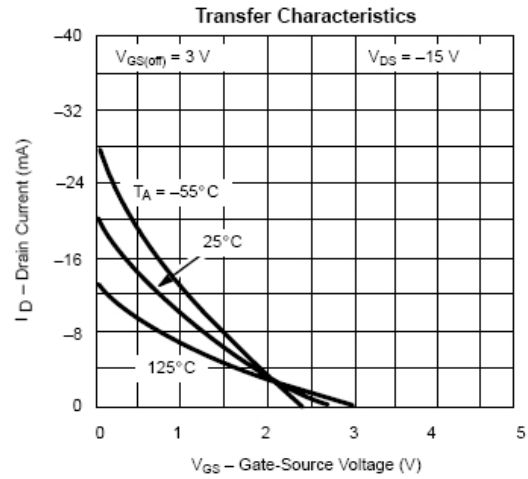
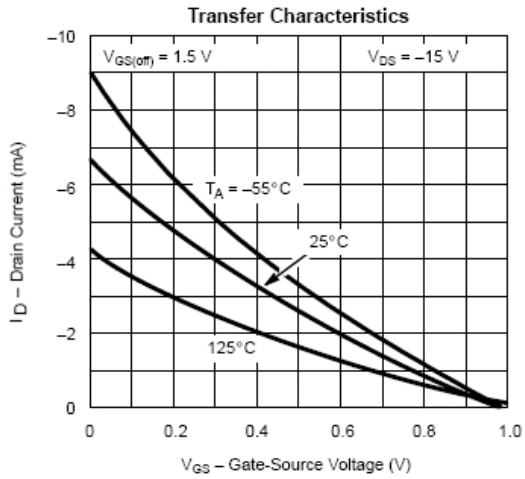
2N5114-2N5116

P-CHANNEL JFETS



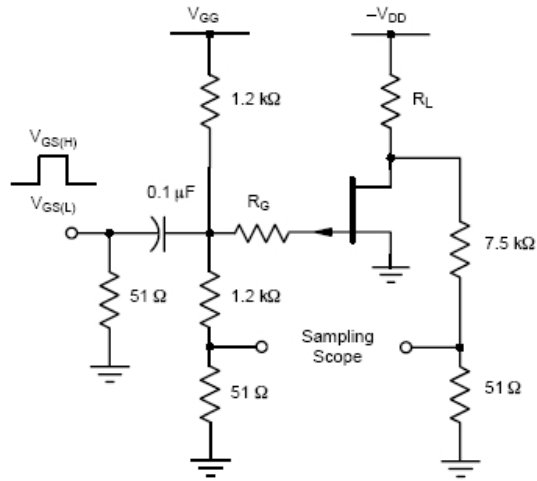
2N5114-2N5116

P-CHANNEL JFETS



2N5114-2N5116

P-CHANNEL JFETS



SWITCHING TIME TEST CIRCUIT			
	2N5114	2N5115	2N5116
V_{DD}	-10V	-6V	-6V
V_{GG}	20V	12V	8V
R_L^*	430 Ω	910 Ω	2k Ω
R_G^*	100 Ω	220 Ω	390 Ω
$I_{D(on)}$	-15mA	-7mA	-3mA
$V_{GS(H)}$	0V	0V	0V
$V_{GS(L)}$	-11V	-7V	-5V

*Non-Inductive