

2N3971, 2N3972

N-Channel Silicon Junction Field-Effect Transistor

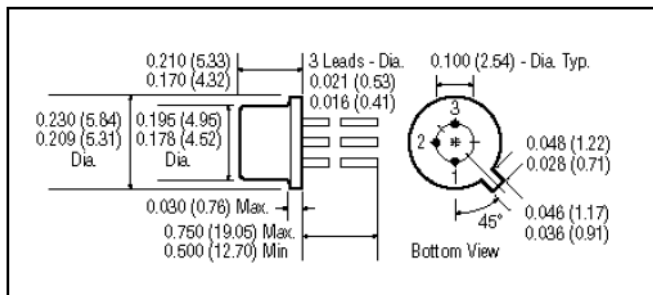
- Low $r_{DS(on)}$
- $I_{D(off)} < 250$ pA
- Fast Switching

Absolute maximum ratings at $T_A = 25^\circ\text{C}$
 Reverse Gate Source & Gate Drain Voltage -40V
 Continuous Forward Gate Current 50 mA
 Continuous Device Power Dissipation 300 mW
 Power Derating 1.7 mW/ $^\circ\text{C}$
 Storage Temperature Range -65°C to $+150^\circ\text{C}$

At 25°C free air temperature		2N3971		2N3972		Process NJ132	
Static Electrical Characteristics		Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-40		-40		V	$I_G = -1$ uA, $V_{DS} = 0$ V
Gate Reverse Current	I_{GSS}		250		250	pA	$V_{GS} = -10$ V, $V_{DS} = 0$ V
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	-2	-5	-0.5	-3	V	$V_{DS} = 10$ V, $V_{GS} = 0$ V
Drain Saturation Current (pulsed)	I_{DSS}	25	75	5	30	mA	$V_{DS} = 10$ V, $V_{GS} = 0$ V

Dynamic Electrical Characteristics							
Drain -Source On Resistance	$r_{ds(on)}$		60		100	Ω	$V_{GS} = 0$ V, $I_D = 0$ V $f = 1$ kHz
Common-Source Input Capacitance	C_{iss}		25		25	pF	$V_{DS} = -10$ V, $V_{GS} = 1$ V $f = 1$ MHz
Common-Source Reverse Transfer Capacitance	C_{rss}		6		6	pF	$V_{DS} = 10$ V, $I_D = 5$ mA $f = 1$ MHz
Turn-On Delay Time	t_d		15		40	nS	$V_{DD} = 10$ V, $V_{GS(on)} = 0$ V
Rise Time	t_r		15		40	nS	$V_{DD} = 10$ V, $V_{GS(on)} = 0$ V
Turn-Off Time	t_{off}		60		100	nS	$V_{DD} = 10$ V, $V_{GS(on)} = 0$ V

TO-18 Package
 Dimensions in Inches (mm)
Pin Configuration
 1 Source 1, 2 Gate & Case, 3 Drain



Surface Mount - SMP3971, SMP3972



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