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°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/°C
Storage Temperature Range	-65°C to +150°C

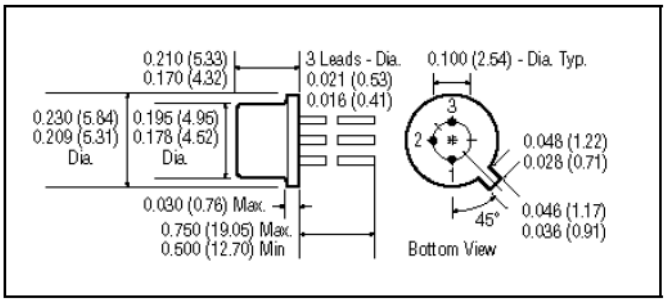
At 25°C free air temperature		**2N3971**		**2N3972**		**Process NJ132**		
Static Electrical Characteristics		**Min**	**Max**	**Min**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-40		-40		V	I_G = -1 uA, V_{DS} = 0 V	
Gate Reverse Current	I_{GSS}		250		250	pA	V_{GS} = -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, $V_{GS(on)}$ = 0V	
Rise Time	t_r		15		40	nS	V_{DD} = 10 V, $V_{GS(on)}$ = 0V	
Turn-Off Time	t_{off}		60		100	nS	V_{DD} = 10 V, $V_{GS(on)}$ = 0V	

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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