

- LOW NOISE VOLTAGE -- 0.08  $\mu\text{V}/\sqrt{\text{Hz}}$  (MAX) @ 100 Hz
- HIGH  $Y_{fs}$  -- 4000  $\mu\text{mhos}$  (MIN)
- LOW  $r_{DS}$  (on) -- 350  $\Omega$  (MAX)
- LOW COST EPOXY PACKAGE

**ABSOLUTE MAXIMUM RATINGS (Note 1)**

**Maximum Temperatures**

Operating Junction Temperature	125°C
Storage Temperature	-55°C to +125°C
Soldering Temperature (10 seconds time limit)	260°C

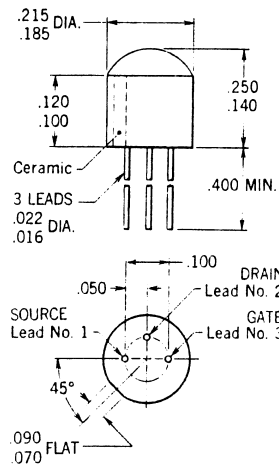
**Maximum Power Dissipation**

Total Dissipation at 25°C Case Temperature (Note 2)	0.5 Watt
at 65°C Case Temperature (Note 2)	0.3 Watt
at 25°C Ambient Temperature (Note 2)	0.2 Watt

**Maximum Voltages**

$BV_{SGO}$ Source to Gate Breakdown Voltage	2N4360	2N4342	2N4343
$BV_{DSO}$ Drain to Source Breakdown Voltage	-20 Volts	-25 Volts	-25 Volts
$BV_{DGO}$ Drain to Gate Breakdown Voltage	-20 Volts	-25 Volts	-25 Volts

**PHYSICAL DIMENSIONS**



NOTES: All dimensions in inches  
All leads electrically isolated from case  
Package weight is 0.31 gram

**ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)**

Symbol	Characteristic	2N4360			2N4342			2N4343			Units	Test Conditions
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
$e_n$	Equivalent Input Noise Voltage (f = 100 Hz)		0.02	0.08		0.02	0.08		0.02	0.08	$\mu\text{V}/\sqrt{\text{Hz}}$	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
NF	Noise Figure (f = 100 Hz)		0.1	1.5		0.1	1.5		0.1	1.5	dB	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$ $R_G = 1.0 \text{ M}\Omega$ $BW = 15 \text{ Hz}$
$Y_{fs}$	Forward Transadmittance (f = 1.0 kHz)	2000	4000	8000	2000	3500	6000	4000	6000	8000	$\mu\text{mhos}$	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
$Y_{os}$	Output Admittance (f = 1.0 kHz)		35	100		25	75		35	100	$\mu\text{mhos}$	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
$BV_{GSS}$	Gate to Source Breakdown Voltage	20			25			25			Volts	$I_G = 10 \mu\text{A}$ $V_{DS} = 0$
$I_{DSS}$	Drain Current	3.0	10	30	4.0	7.0	12	10	18	30	mA	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
$V_{GS}$	Gate to Source Voltage	0.7	5.0	9.0							Volts	$V_{DS} = -10 \text{ V}$ $I_D = 0.3 \text{ mA}$
$V_{GS}$	Gate to Source Voltage				0.7	3.0	5.0				Volts	$V_{DS} = -10 \text{ V}$ $I_D = 0.4 \text{ mA}$
$V_{GS}$	Gate to Source Voltage							1.8	6.0	9.0	Volts	$V_{DS} = -10 \text{ V}$ $I_D = 1.0 \text{ mA}$
$V_{GS}$ (off)	Gate to Source Cutoff Voltage			10			5.5			10	Volts	$V_{DS} = -10 \text{ V}$ $I_D = 1.0 \mu\text{A}$
$I_{GSS}$	Gate Reverse Current		0.15	10		0.15	10		0.15	10	nA	$V_{GS} = 15 \text{ V}$ $V_{DS} = 0$
$I_{GSS}$ (65°C)	Gate Reverse Current		0.002	0.5		0.002	0.5		0.002	0.5	$\mu\text{A}$	$V_{GS} = 15 \text{ V}$ $V_{DS} = 0$
$C_{iss}$	Input Capacitance (f = 1.0 MHz)		15	20		15	20		15	20	pF	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
$C_{rss}$	Reverse Transfer Capacitance (f = 1.0 MHz)		3.0	5.0		3.0	5.0		3.0	5.0	pF	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$
$r_{DS(on)}$	Drain "On" Resistance (f = 1.0 kHz)		350	700		300	700		180	350	Ohms	$I_D = 0$ $V_{GS} = 0$
$R_e(Y_{fs})$	Forward Transconductance (f = 1.0 MHz)	1500	3000		1500	2500		3000	5500		$\mu\text{mhos}$	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$

**NOTES:**

- (1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- (2) These ratings give a maximum junction temperature of 125°C and junction to case thermal resistance of 200°C/Watt (derating factor of 5.0 mW/°C); junction to ambient thermal resistance of 500°C/Watt (derating factor of 2.0 mW/°C).
- (3) Both 2N4342 and 2N4343 typical curves apply to 2N4360.

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