

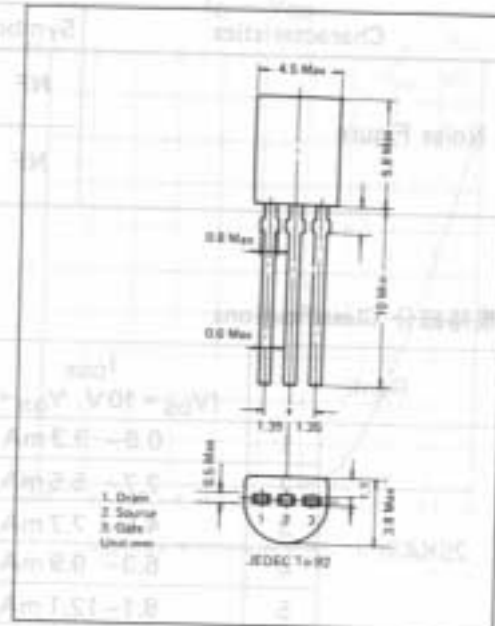
2SK43,43[Ⓢ] Industrial Use

Silicon N-Channel Junction FET

- Super Low Noise, High Gm, High Reliability
- プリアンプ (TVカメラ, VTR, オーディオ, 測定器)
- アナログスイッチ (2SK43[Ⓢ]-D, $R_{ON} \leq 80\Omega$)
- 小リーク電流 ($I_{GSS} = -5\mu\text{A typ.}$)
- TV Camera, Video and Audio Preamplifiers
- Analogue Switchings (2SK43[Ⓢ]-D)
- Small Leak Current ($I_{GSS} = -5\mu\text{A typ.}$)

絶対最大定格 Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Characteristics	Symbol	2SK43/2SK43 [Ⓢ]
Drain-to-Gate Voltage	V_{DGG}	30V
Source-to-Gate Voltage	V_{SGG}	50V
Drain Current	I_D	20 mA
Gate Current	I_G	5 mA
Power Dissipation	P	300 mW
Junction Temperature	T_j	100°C
Storage Temperature	T_{stg}	-50~+120°C

電気的特性 Electrical Characteristics $T_a = 25^\circ\text{C}$

Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-to-Gate Voltage	V_{DGS}	$I_G = 10\mu\text{A}, V_{DS} = 0$	25			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -15\text{V}, V_{DS} = 0$			-1.0	nA
			2SK43			
				-5	-100	pA
Drain Saturation Current	I_{DSS}	$V_{DS} = 10\text{V}, V_{GS} = 0$	0.9		14.3	mA
Pinch-off Voltage	V_p	$V_{DS} = 10\text{V}, I_D = 30\mu\text{A}$	0.18		1.49	V
Forward Transfer Conductance	g_m	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{kHz}$	6.3			$\text{m}\Omega^{-1}$
Input Impedance Y11S	r_p	$V_{DS} = 10\text{V}, V_{GS} = 0,$		1.2		$\text{k}\Omega$
	C_p	$f = 100\text{MHz}$		13		pF
Output Impedance Y22S	r_p	$V_{DS} = 10\text{V}, V_{GS} = 0,$				
	C_p	$f = 100\text{MHz}$		2.7		pF
Reverse Transfer Capacitance	C_{dg}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		2.4		pF
Gate-to-Drain Capacitance	C_{GD}	$V_{GS} = 0, f = 1\text{MHz}, \text{Fig. 1}$		7		pF
Gate-to-Source Capacitance	C_{GS}	$V_{GD} = 0, f = 1\text{MHz}, \text{Fig. 2}$		7		pF
Off-State Resistance	R_{OFF}	2SK43 [Ⓢ] -D	10^9	10^{12}		Ω
On-State Resistance	R_{ON}	Ref. ☆Table 1			80	Ω
Input Noise Voltage	e	$V_{GS} = 0, V_{DS} = 10\text{V}, R_g = 10\text{k}\Omega, f = 1\text{kHz}$		13		$\text{nV}/\text{Hz}^{1/2}$
	e	$V_{GS} = 0, V_{DS} = 10\text{V}, R_g = 100\text{k}\Omega, f = 10\text{Hz}$		39		$\text{nV}/\text{Hz}^{1/2}$

2SK43,43S

Industrial Use

2SK43,43S

Silicon N-Channel Junction FET

Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
Noise Figure	NF	$V_{GS} = 0, V_{DS} = 10V,$ $R_g = 10k\Omega, f = 1kHz$		0.1		dB
	NF	$V_{GS} = 0, V_{DS} = 10V,$ $R_g = 100k\Omega, f = 10Hz$		0.1		dB

規格細分 Classifications

Rank		I_{DSS}	V_p	g_m	R_{ON}
		($V_{DS} = 10V, V_{GS} = 0$)	($V_{DS} = 10V, I_D = 30\mu A$)	($V_{DS} = 10V, f = 1kHz$)	R_{OFF}
2SK43-	1	0.9–3.3 mA	0.18–0.61 V	6.3 mS–	–
	2	2.7–5.5 mA	0.36–0.83 V	6.3 mS–	–
	3	4.5–7.7 mA	0.45–0.99 V	10.8 mS–	–
	4	6.3–9.9 mA	0.58–1.21 V	10.8 mS–	–
	5	8.1–12.1 mA	0.72–1.38 V	12.6 mS–	–
	6	9.9–14.3 mA	0.85–1.49 V	12.6 mS–	–
2SK43S-	A	0.9–3.3 mA	0.18–0.61 V	6.3 mS–	–
	B	2.7–5.5 mA	0.36–0.83 V	6.3 mS–	–
	C	4.5–9.9 mA	0.45–1.21 V	10.8 mS–	–
	D	8.1–14.3 mA	0.72–1.49 V	14.0 mS–	○

Table 1 2SK43S-D R_{ON}, R_{OFF} Characteristics

Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
On-State Resistance	R_{ON}	$V_{DS} = 0.1V, V_{GS} = 0$			80	Ω
Distribution of R_{ON}	ΔR_{ON}	$ R_{ON(max)} - R_{ON(min)} $			± 17.5	Ω
Off-State Resistance	R_{OFF}	$V_{DS} = 10V, V_{GS} = -15V$	10^9	10^{12}		Ω

