SILICON N CHANNEL JUNCTION TYPE (INDUSTRIAL APPLICATIONS)

2SK113

FOR ANALOG SWITCH, CHOPPER AMPLIFIER AND SWITCHING CIRCUIT APPLICATIONS.

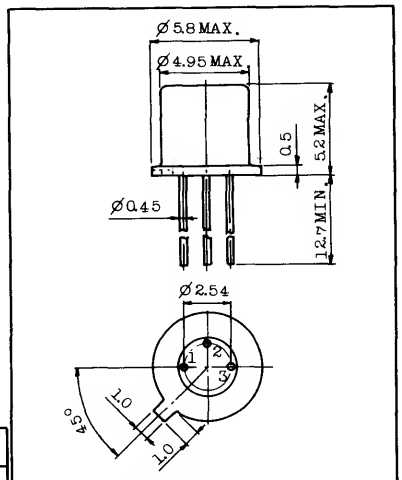
FEATURES:

. High Breakdown Voltage : $V_{(BR)GDS}$=-50V

. Low ON Resistance : $r_{DS(ON)}$=30Ω(Max.) (2SK113-Y)

. Low Leakage : $I_{D(OFF)}$=100pA(Max.) (V_{DS}=20V)

Unit in mm



1. SOURCE
2. DRAIN
3. GATE (CASE)

JEDEC	TO-18
EIAJ	TC-7, TB-8C
TOSHIBA	2-5A1C

Weight : 0.31g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDS}	-50	V
Gate Current	I_G	10	mA
Drain Power Dissipation	P_D	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65 ~ 150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	V_{GS}=-20V, V_{DS}=0	-	-	-0.1	nA
Drain Cutoff Current	$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=(Note 3)	-	-	0.1	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	V_{DS}=0, I_G=-1μA	-50	-	-	V
Drain Current	I_{DSS} (Note 1)	V_{DS}=20V, V_{GS}=0, (Note 2)	5	-	150	mA
Gate-Source Cutoff Voltage	$V_{GS(OFF)}$	V_{DS}=20V, I_D=0.1μA, (Note 2)	-0.3	-	-10	V
Drain-Source ON Voltage	$V_{DS(ON)}$	V_{GS}=0, I_D=(Note4), (Note2)	-	-	0.4	V
Static Drain-Source ON Resistance	$r_{DS(ON)}$	V_{GS}=0, I_D=1mA, (Note 2)	-	-	100	Ω
Drain-Source ON Resistance	$r_{ds(on)}$	V_{GS}=0, I_D=0, f=1kHz (Note 2)	-	-	100	Ω
Input Capacitance	C_{iss}	V_{DS}=20V, V_{GS}=0, f=1MHz	-	10	14	pF
Reverse Transfer Capacitance	C_{rss}	V_{DS}=0, V_{GS}=(Note 3), f=1MHz	-	3	5	pF

Note 1 : Pulse Test : Pulse Width≦100μs, Duty Cycle≦0.1%

Note 2:

According to the value of I_{DSS}, $V_{GS(OFF)}$, $V_{DS(ON)}$, $r_{DS(ON)}$ and $r_{ds(on)}$, the 2SK113 is classified as follows.

CLASSIFICATION	SYMBOL	I_{DSS} (mA)		$V_{GS(OFF)}$ (V)		$V_{DS(ON)}$ (V)	$r_{DS(ON)}$ (Ω)	$r_{ds(on)}$ (Ω)
		MIN.	MAX.	MIN.	MAX.	MAX.	MAX.	MAX.
2SK113-R	R	5	30	-0.3	-3	0.4	100	100
2SK113-O	O	25	75	-1.2	-5	0.4	60	60
2SK113-Y	Y	50	150	-2.5	-10	0.4	30	30

Note 3:

According to the classification, the 2SK113 is supplied voltage as follows.

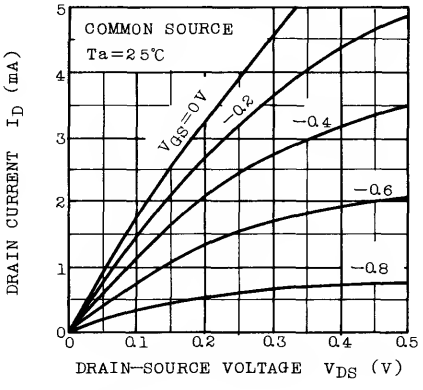
CLASSIFICATION	SYMBOL	V_{GS}(V)
2SK113-R	R	-5
2SK113-O	O	-7
2SK113-Y	Y	-12

Note 4:

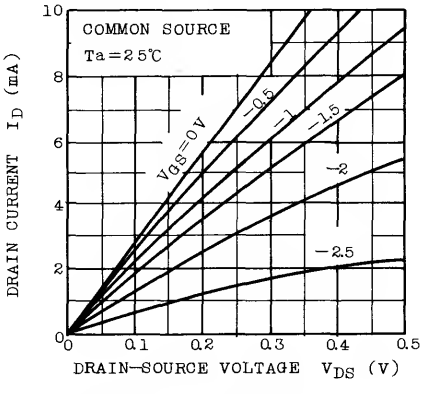
According to the classification, the 2SK113 is supplied drain current I_D as follows.

CLASSIFICATION	SYMBOL	I_D (mA)
2SK113-R	R	3
2SK113-O	O	6
2SK113-Y	Y	12

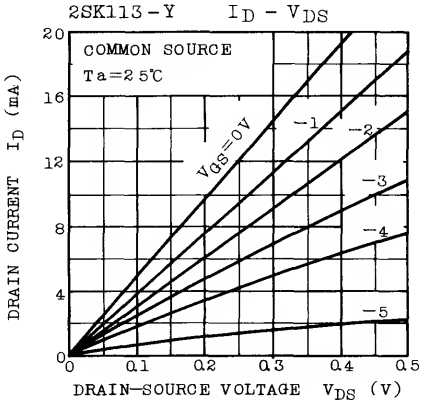
2SK113-R $I_D - V_{DS}$



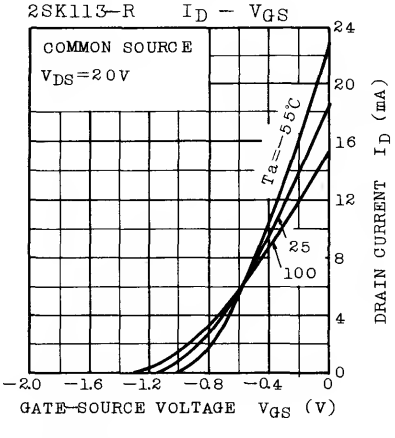
2SK113-O $I_D - V_{DS}$



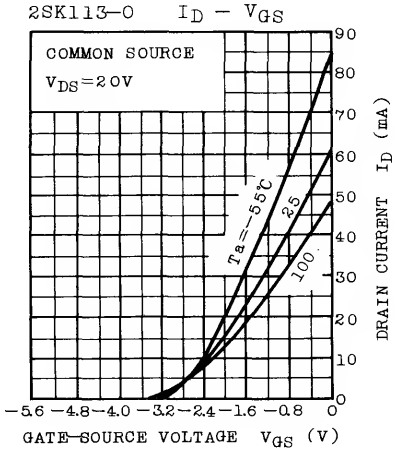
2SK113-Y $I_D - V_{DS}$



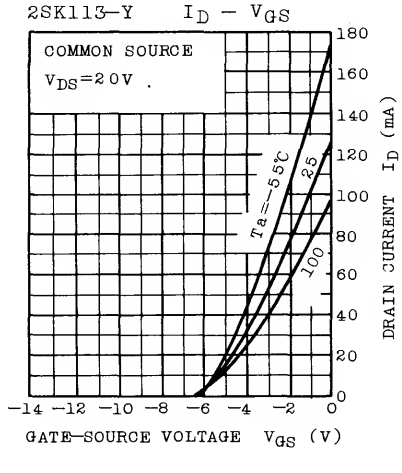
2SK113-R $I_D - V_{GS}$



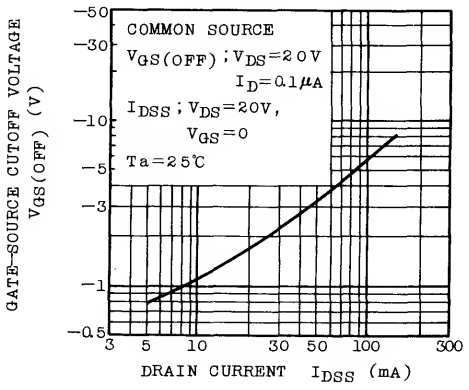
2SK113-O $I_D - V_{GS}$



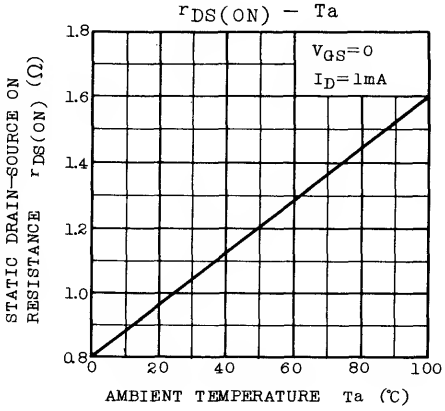
2SK113-Y $I_D - V_{GS}$



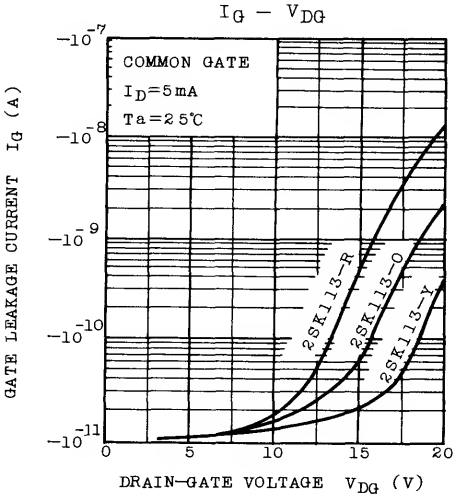
$V_{GS(OFF)} - I_{DSS}$



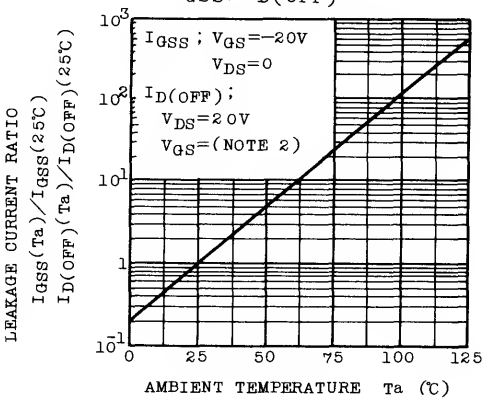
$r_{DS(ON)} - Ta$



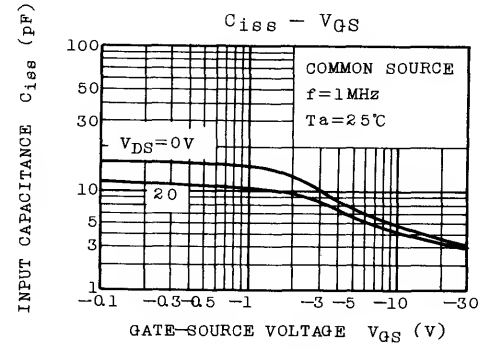
$I_G - V_{DG}$



$I_{GSS}, I_{D(OFF)} - Ta$



$C_{iss} - V_{GS}$



$P_D - Ta$