

TOSHIBA TRANSISTOR SILICON N CHANNEL JUNCTION TYPE FET SILICON NPN EPITAXIAL TYPE TRANSISTOR

HN3G01J

HIGH FREQUENCY AMPLIFIER APPLICATIONS

AM HIGH FREQUENCY AMPLIFIER APPLICATIONS

AUDIO FREQUENCY AMPLIFIER APPLICATIONS

MAXIMUM RATINGS (Ta = 25°C)
Q1

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V _{GDS}	-20	V
Gate Current	I _G	10	mA

Q2

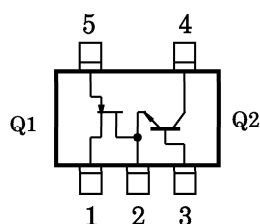
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _C	150	mA
Base Current	I _B	30	mA

COMMON RATINGS

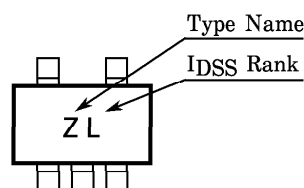
CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P*	200	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

* Total Rating

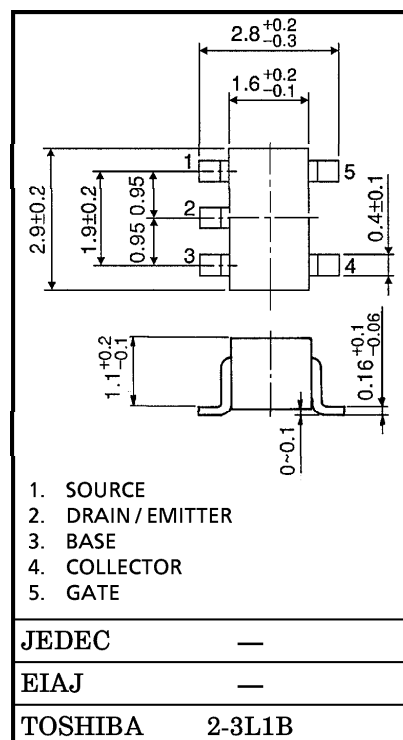
PIN ASSIGNMENT (TOP VIEW)



Marking



Unit in mm



961001EAA2

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Q1

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{GS} = -15V, V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS} = 0, I_G = -100\mu A$	-20	—	—	V
Drain Current	I_{DSS} (Note)	$V_{DS} = 5V, V_{GS} = 0$	6	—	32	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS} = 5V, I_D = 10\mu A$	—	—	-2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 5V, V_{GS} = 0, f = 1kHz$	15	25	—	mS
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$	—	7.5	10	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DG} = 5V, I_D = 0, f = 1MHz$	—	2	3	pF

Note : I_{DSS} Classification

GR : 6~12mA, BL : 10~20mA, V : 16~32mA

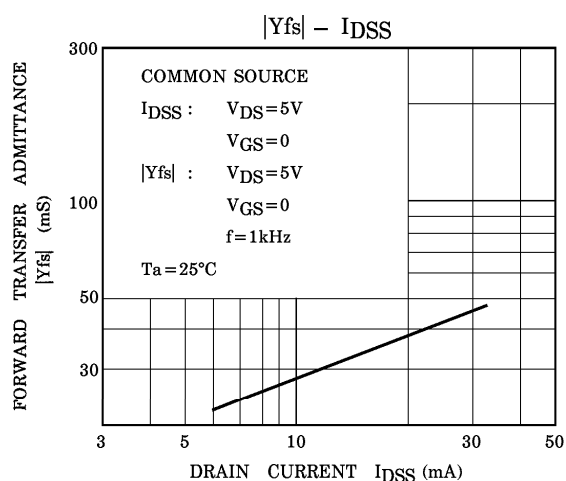
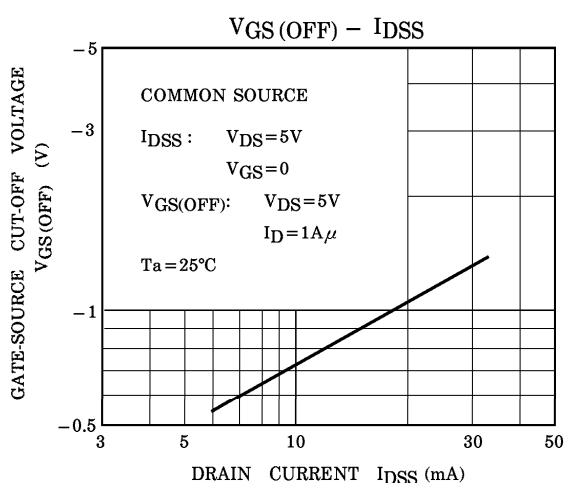
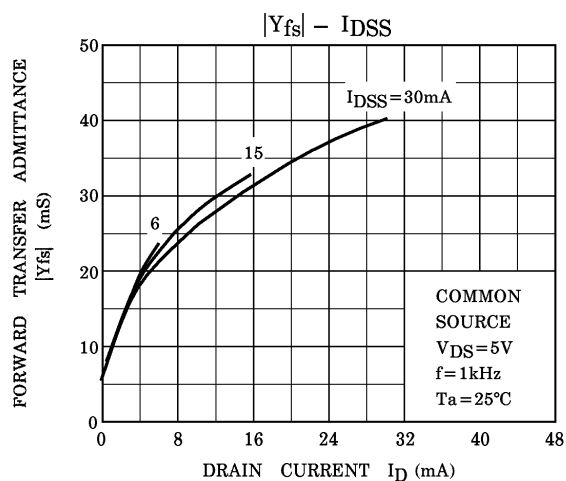
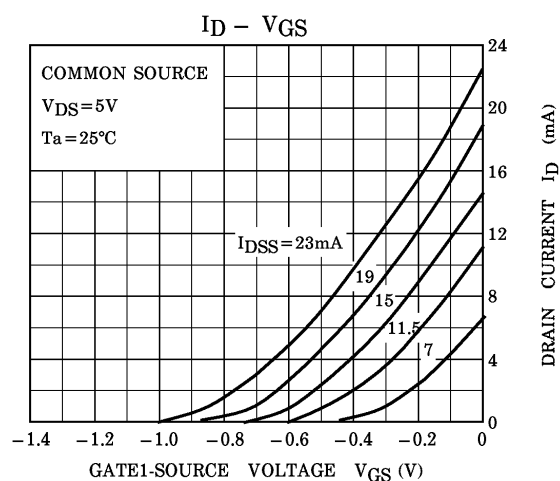
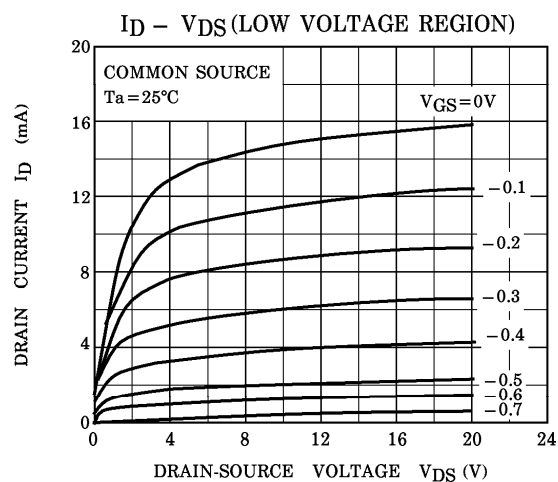
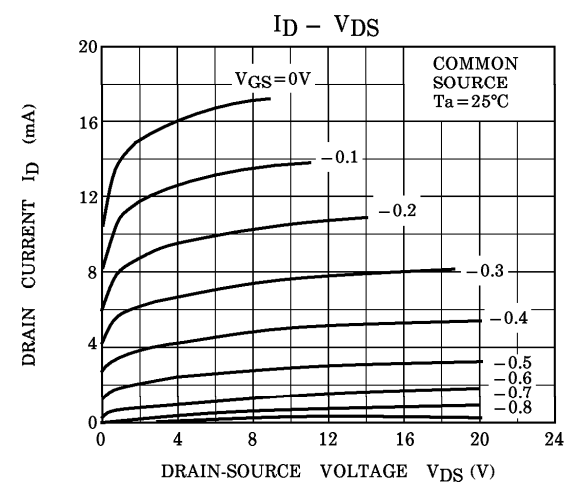
(G) (L) (V)

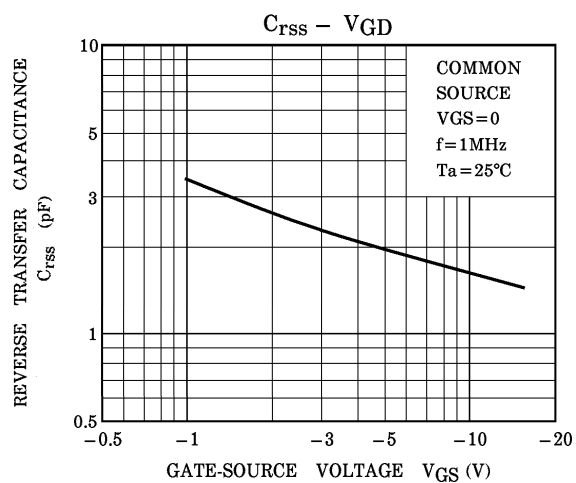
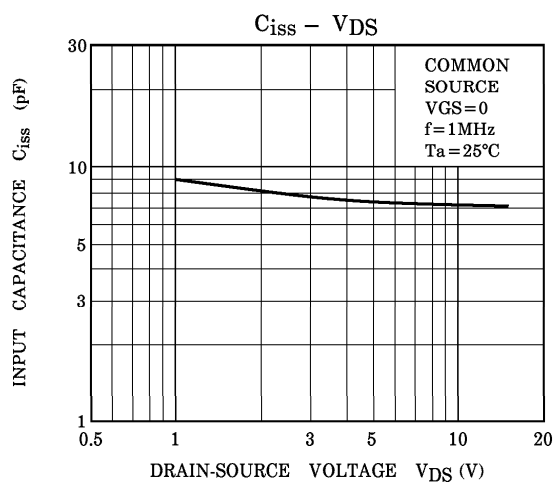
()... I_{DSS} Rank Marking

Q2

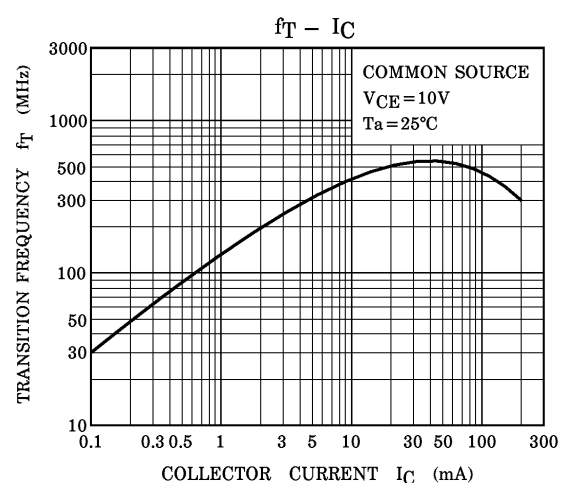
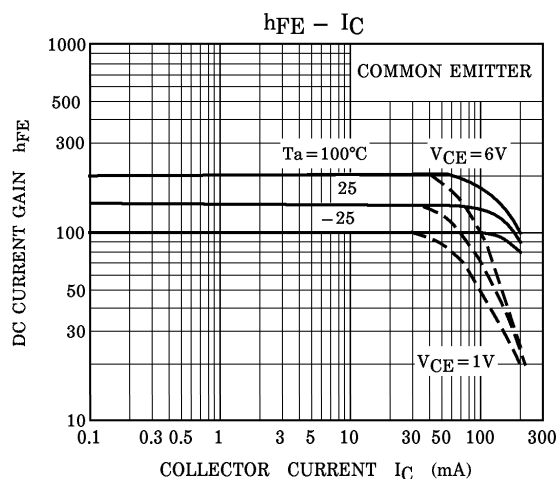
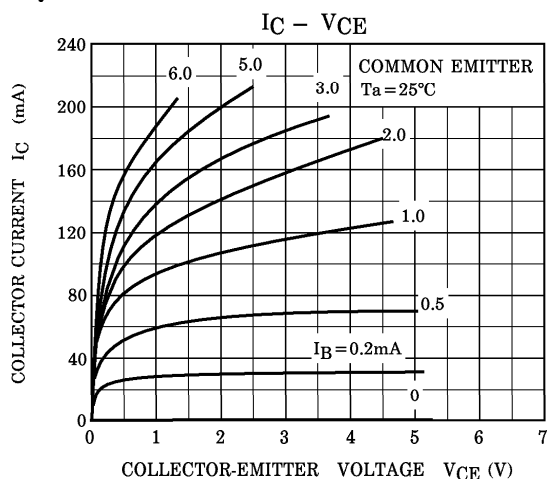
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6V, I_C = 2mA$	120	—	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$	—	0.1	0.25	V
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 1mA$	60	—	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	2.0	3.5	pF

* Q1 CHARACTERISTICS





*** Q2 CHARACTERISTIC**



*** Q1, Q2 COMMON CHARACTERISTICS**

