

SILICON POWER TRANSISTORS

2SB546A, 547A/2SD401A, 402A

VERTICAL DEFLECTION OUTPUT FOR COLOR TV

PNP/NPN SILICON TRIPLE DIFFUSED TRANSISTORS

DESCRIPTION

The 2SB546A (PNP), 2SD401A (NPN), 2SB547A (PNP), and 2SD402A (NPN) are high voltage triple diffused silicon transistors. These devices are designed for use in line-operated color TV vertical deflection of complementary symmetry circuit.

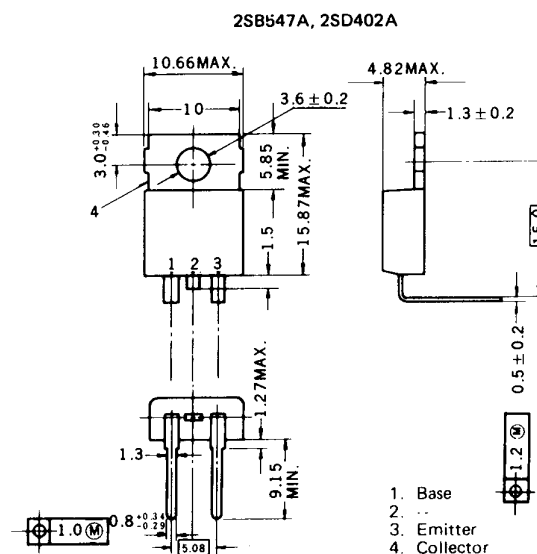
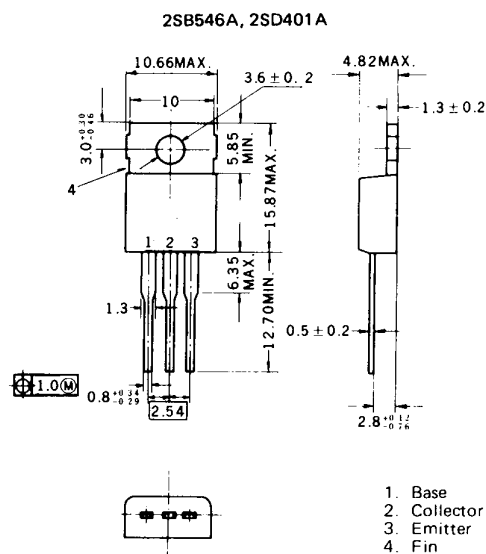
2SB546A and 2SD401A are complementary transistors, consisting of straight leads.

2SB547A and 2SD402A consist of emitter and base leads for insertion into TO-66 sockets.

QUICK REFERENCE DATA					
			2SB546A, 2SB547A	2SD401A, 2SD402A	
Collector-emitter voltage (open base)	V_{CEO}	MAX.	150	150	V
Collector current (peak value)	I_{CM}	MAX.	3	3	A
Total power dissipation up to $T_{case} = 25^{\circ}C$	P_{tot}	MAX.	30	30	W
D.C. Current gain					
$I_C = -0.4/0.4A, V_{CE} = -10/10V$	h_{FE}	MIN.	40	40	

MECHANICAL DATA

(Dimensions in mm)



ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$)Voltages ($T_{amb} = 25^{\circ}\text{C}$)

			2SB546A, 2SB547A	2SD401A, 2SD402A	
Collector-base voltage (open emitter)	V_{CBO}	MAX.	-200	200	V
Collector-emitter voltage (open base)	V_{CEO}	MAX.	-150	150	V
Emitter-base voltage (open collector)	V_{EBO}	MAX.	-5.0	5.0	V

Currents ($T_{amb} = 25^{\circ}\text{C}$)

Collector current (D.C.)	I_C	MAX.	-2.0	2.0	A
Collector current (peak value)	I_{CM}	MAX.	-3.0	3.0	A
Base current (peak value)	I_{BM}	MAX.	-1.5	1.5	A

Power dissipation

Total power dissipation
at $T_{case} = 25^{\circ}\text{C}$

P_{tot}	MAX.	30	W
-----------	------	----	---

TEMPERATURES

Storage temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$
Junction temperature	T_j	150	$^{\circ}\text{C}$

THERMAL RESISTANCE

from junction to case	$R_{th\ j-case}$	4.16	$^{\circ}\text{C/W}$
from junction to ambient in free air	$R_{th\ j-a}$	78	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$)

Collector cut-off current

			2SB546A, 2SB547A, 2SD401A, 2SD402A	
$I_E = 0, V_{CB} = -150/150\text{V}$	I_{CBO}	<	-50/50	μA

Emitter cut-off current

$V_{EB} = -4.0/4.0\text{V}, I_C = 0$	I_{EBO}	<	-50/50	μA
--------------------------------------	-----------	---	--------	---------------

D.C. current gain

$V_{CE} = -10/10\text{V}, I_C = -0.4/0.4\text{A}$	h_{FE}	>	40/40	
---	----------	---	-------	--

Collector-emitter saturation voltage

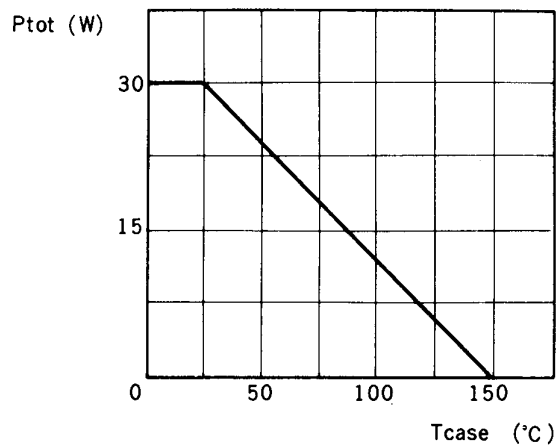
$I_C = -0.5/0.5\text{A}, I_B = -0.05/0.05\text{A}$	$V_{CE(sat)}$	<	-2.0/2.0	V
--	---------------	---	----------	---

Transition frequency

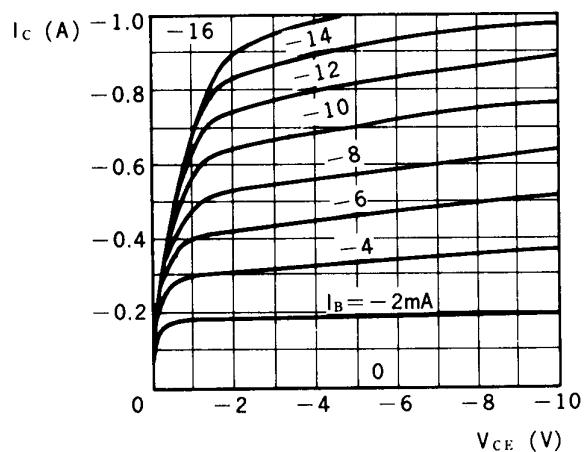
$V_{CE} = -10/10\text{V}, I_C = -0.4/0.4\text{A}$	f_T	TYP.	7/7	MHz
---	-------	------	-----	-----

Collector capacitance

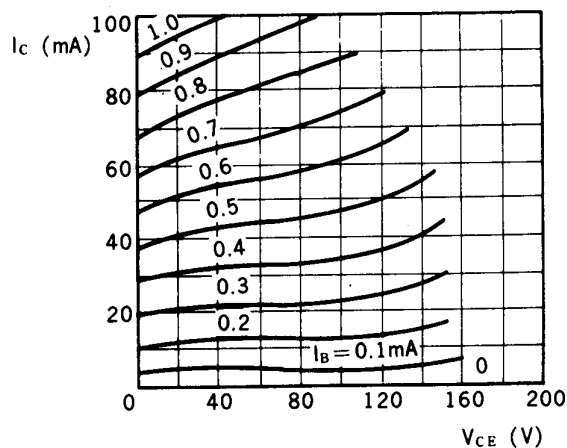
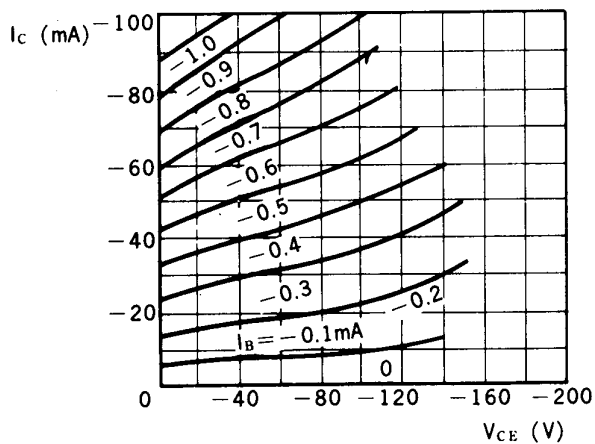
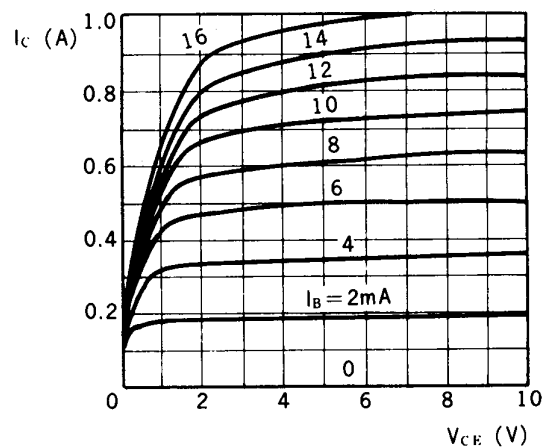
$V_{CB} = -10/10\text{V}, f = 1.0\text{MHz}, I_E = 0$	C_C	TYP.	75/45	pF
---	-------	------	-------	----

TYPICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$)

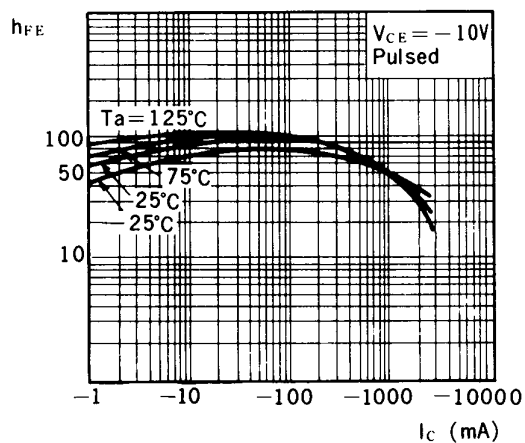
2SB546A, 2SB547A



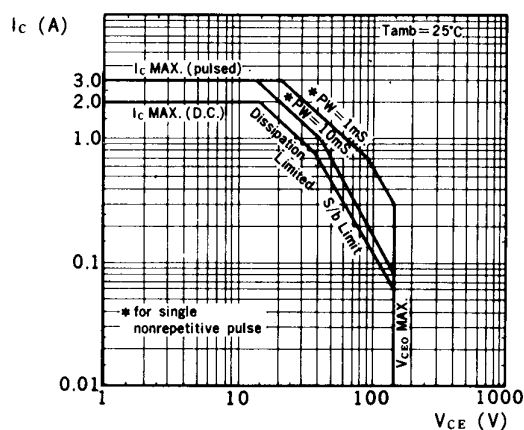
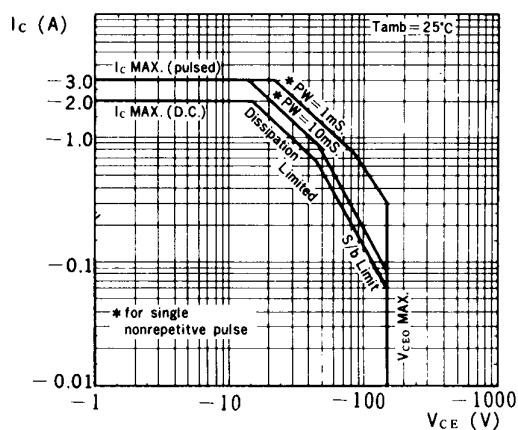
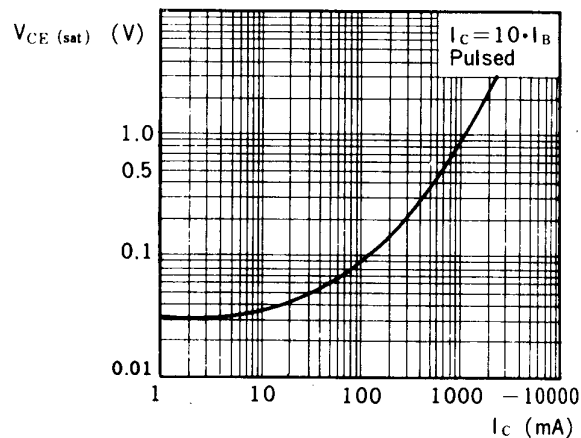
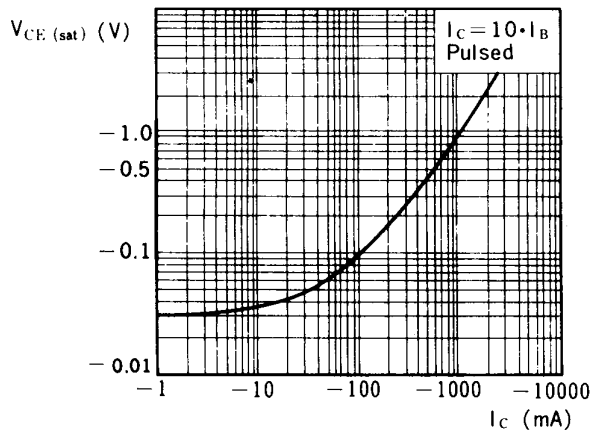
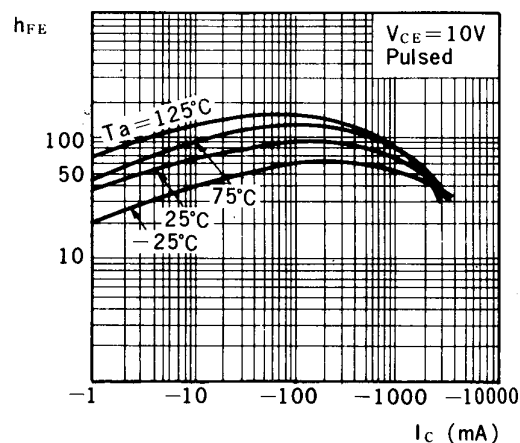
2SD401A, 2SD402A



2SB546A, 547A



2SD401A, 2SD402A



Nippon Electric Co. Ltd.

NEC Building, 33-1, Shiba-Gochome, Minato-ku, Tokyo 108, Japan
 Tel: Tokyo 454-1111
 Cable Address: "MICROPHONE TOKYO"
 Telex Address: NEC TOK A J22686

TC-1123Eu

FEB. 28-76

Printed in Japan