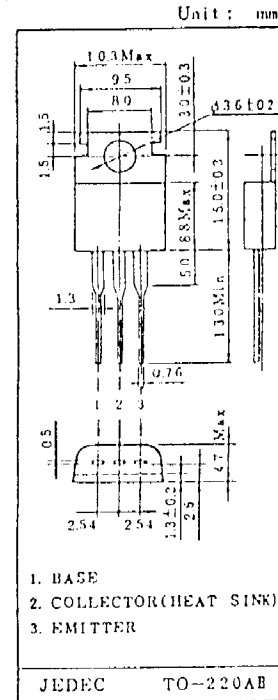


## 2SC2098

MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

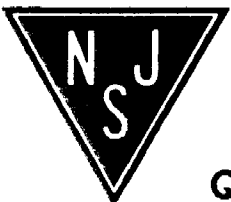
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	70	V
Collector-Emitter Voltage ( $R_{EB}=10\Omega$ )	$V_{CER}$	70	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	6	A
Total Device Dissipation ( $T_C=50^\circ\text{C}$ )	$P_C$	20	W
Operating Junction Temperature Range	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$



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

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40V$ $I_E=0$	—	—	0.1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA$ $I_E=0$	70	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	$I_C=10mA$ $R_{EB}=10\Omega$	70	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA$ $I_C=0$	4	—	—	V
DC Current Gain (Note 1)	$h_{FE}$	$V_{CE}=5V$ $I_C=4A$	20	—	100	—
Collector-Emitter Saturation Voltage (Note 1)	$V_{CE(sat)}$	$I_C=4A$ $I_B=0.4A$	—	—	1.5	V
Current-Gain-Bandwidth Product	$f_T$	$V_{CE}=5V$ $I_C=0.5A$	100	—	—	MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V$ $I_E=0$ $f=1MHz$	—	80	120	pF

NOTE 1: Pulse Test: Pulse Width  $\leq 100\mu s$ , Duty Cycle  $\leq 3\%$

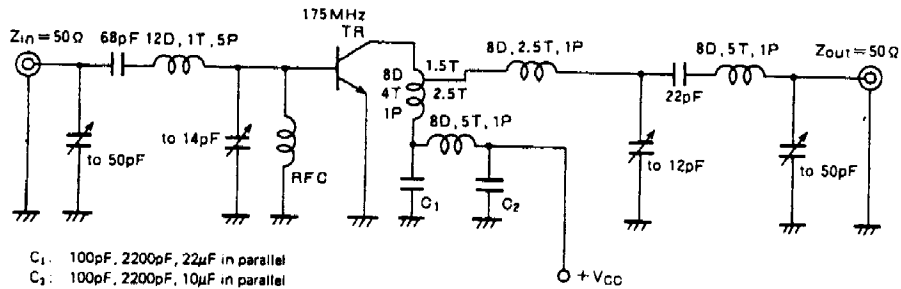


NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

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# NPN EPITAXIAL PLANAR TYPE

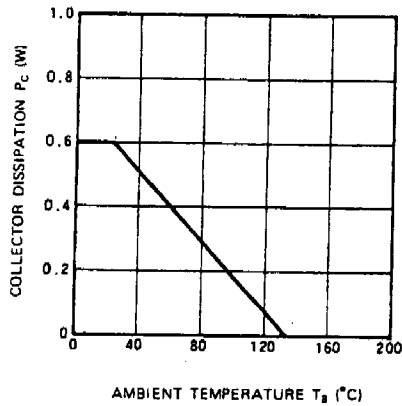
## TEST CIRCUIT



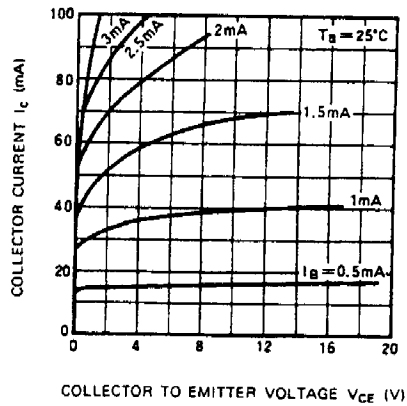
- $C_1$ : 100pF, 2200pF, 22 $\mu$ F in parallel  
 $C_2$ : 100pF, 2200pF, 10 $\mu$ F in parallel  
 Notes: All coils are made from 1.5mm silver plated copper wire  
 Coil dimensions in milli-meter  
 D: Inner diameter of coil  
 T: Turn number of coil  
 P: Pitch of coil

## TYPICAL PERFORMANCE DATA

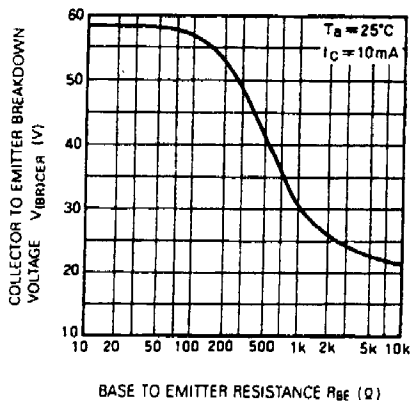
### COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



### COLLECTOR CURRENT VS. COLLECTOR TO EMITTER VOLTAGE



### COLLECTOR TO EMITTER BREAKDOWN VOLTAGE VS. BASE TO EMITTER RESISTANCE



### DC CURRENT GAIN VS. COLLECTOR CURRENT

