

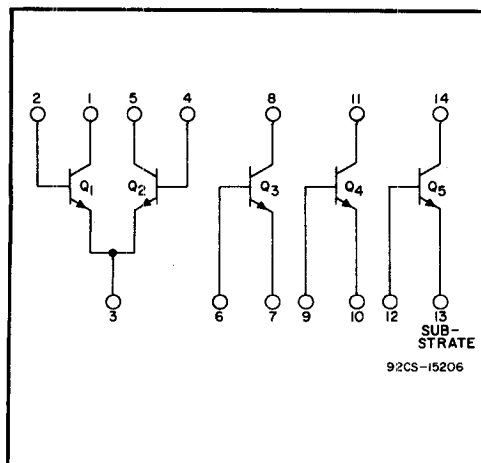
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Three Individual Transistors and One Differentially-Connected Transistor Pair

CA3045, CA3146
CA3046, CA3146A
CA3086



Applications and Features

For low-power requirements at frequencies from dc through the vhf range

Custom-designed differential amplifiers

Temperature-compensated amplifiers

The CA3086 is similar to the CA3046 except as indicated in chart below and its transistors are non-matched.

Frequency range: from dc to 120 MHz

Five general-purpose monolithic transistors

Matched transistor pair (CA3045, CA3046, CA3146,A)

Wide operating-current range

Maximum Ratings at $T_A=25^\circ\text{C}$

The following ratings apply for each transistor in the array:

Package	Suffix	T_A ($^\circ\text{C}$)
14-Lead DIP (CA3146,A)	E**	-55 to 125
14-Lead DIC	None	
14-Lead Frit Seal (CA3045, CA3086)	F	
Beam Lead (CA3045)	L	Page 59
Chip (CA3045, CA3146)	H	Page 59

File Nos. 341, 483, 532; ICAN No. 5296*

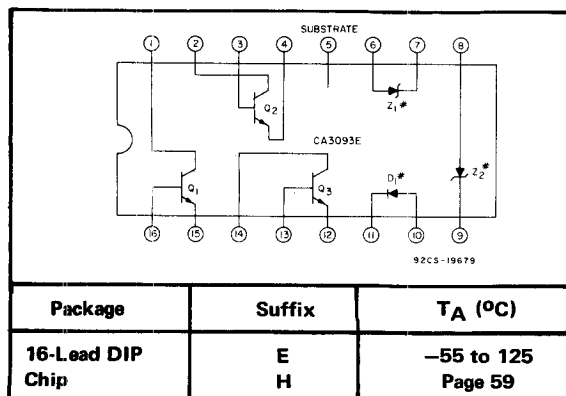
**No suffix for CA3046, CA3086

	CA3045 CA3046	CA3146	CA3146A	CA3086	
Collector-to-Emitter Voltage	15	30	40	15	V max.
Collector-to-Base Voltage	20	40	50	20	V max.
Collector-to-Substrate* Voltage	20	40	50	20	V max.
Emitter-to-Base Voltage	5	5	5	5	V max.
Collector Current	50	50	50	50	mA max.
Power Dissipation	300	300	300	300	mW max.
DC Forward-Current Transfer Ratio ($I_C = 1$ mA)	40	30	30	40	min.
Collector Cutoff Current (I_{CBO})	40	100	100	100	nA max.
Collector Cutoff Current (I_{CEO})	0.5	5	5	5	μA max.
Gain Bandwidth Product	300	300	300	550 typ.	MHz min.

*The collector of each transistor is isolated from the substrate by an integral diode.

General-Purpose High-Current n-p-n Transistor, Zener-Diode, Diode Array

CA3093



Applications and Features

Zener Diodes

Two 1/4W Zeners

$V_Z = 7\text{V} \pm 10\%$ at $I_Z = 10$ mA

$z_Z = 15\Omega$ typ at $I_Z = 10$ mA

$\Delta V_Z/\Delta T = 0.05\%/^\circ\text{C}$ or 3.6 mV/ $^\circ\text{C}$ typ.

Diode

Close forward voltage match of V_{BE} 's of Q_1 and Q_2 $V_{PIV} = 5.5\text{V}$ min

Signal processing and switching systems operating from dc to vhf

Lamp and relay driver

Differential amplifier

Temperature-compensated amplifier

Thyristor firing

Transistors

High I_C (100mA max.)

Matched pair (Q_1 & Q_2)

$V_{IO} = \pm 5\text{mV}$ max

$I_{IO} = 2.5\mu\text{A}$ max } at $I_C = 1$ mA

$\Delta V_{IO}/\Delta T = 5\mu\text{V}/^\circ\text{C}$ typ

$h_{FE} = 40$ min @ $I_C = 10\text{mA}$ or 50mA

Low V_{CEsat} ... 0.7V max @ 50mA

File No. 533*

Maximum Ratings at $T_A = 25^\circ\text{C}$

for each transistor

Collector-to-Emitter Voltage (V_{CEO})	15 V
Collector-to-Base Voltage (V_{CBO})	20 V
Collector-to-Substrate Voltage (V_{CIO})*	20 V
Emitter-to-Base Voltage (V_{EBO})	5.5V
Collector Current (I_C)	100 mA
Base Current (I_B)	35 mA

for each zener diode or diode

Zener Diode dc Current (I_Z)	35 mA
Zener Diode-to-Substrate Voltage (V_{ZIO})*	20 V
Diode (D1) Forward Current (I_{DF})	50 mA
Diode (D1) Reverse Voltage (V_{DR})	5.5 V
Diode (D1)-to-Substrate Voltage (V_{DIO})*	20 V