

File Number 211

40346, 40412

Medium-Power Silicon N-P-N Planar Transistors

For High-Voltage Switching and Linear-Amplifier Applications

Features:

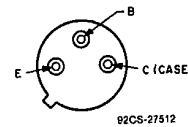
- For operation at junction temperature up to 200° C
- Planar construction for low noise and low leakage

RCA-40346, and 40412, are silicon n-p-n transistors having high breakdown voltages, high frequency-response capability, and fast switching speeds.

These transistors are intended for a wide variety of low- and medium-power, high-voltage applications. Type 40346 is especially useful in differential and operational amplifiers. Type 40412 is especially suited for class A ac/dc audio-amplifier service.

Types 40346 and 40412 are supplied in a JEDEC TO-205AD hermetic package.

TERMINAL DESIGNATIONS



JEDEC TO-205AD

MAXIMUM RATINGS, Absolute-Maximum Values:

	40346	40412	
$V_{CE}(SUS)$	175	—	V
$R_{BE} = 1000 \Omega$	—	250	V
$R_{BE} = 10,000 \Omega$	1	1	A
I_C	0.5	0.5	A
I_B	—	—	—
P_T	10	10	W
$T_C \leq 25^\circ C$	1	1	W
$T_A \leq 50^\circ$	—	—	W
$T_A \leq 25^\circ C$	—	—	W
At other temperatures	See Fig. 1		
T_{stg}, T_J	-65 to +200		°C
T_L	+265		°C
At distance $1/16 \pm 1/32$ inch (1.59 \pm 0.79 mm) from case for 10 s max.			

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ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C) = 25°C unless otherwise specified

CHARACTERISTIC	TEST CONDITIONS				LIMITS				UNITS
	VOLTAGE		CURRENT		40346		40412		
	V dc		mA dc		Min.	Max.	Min.	Max.	
	VCE	VBE	IC	IB					
ICEO	100			0	—	5	—	—	μA
ICER RBE = 10 kΩ	100				—	—	—	1	mA
ICEV	200	-1.5			—	10	—	—	μA
TC = 150°C	150	-1.5			—	—	—	2	mA
	200	-1.5			—	1	—	—	mA
IEBO		-4	0		—	5	—	—	μA
		-3	0		—	—	—	100	
hFE	10		10		25	—	—	—	
	20		30		—	—	40	—	
VCER(sus) RBE = 1 kΩ			50		175 ^a	—	—	—	V
			50		—	—	250 ^a	—	
VBE	10		10		—	1	—	—	V
VCE(sat)			10	1	—	0.5	—	—	V
hfe f = 5 MHz	10		10		2	—	2	—	
Cobo VCB = 10 V f = 1 MHz					—	—	—	10	pF
IS/b t = 1 s, nonrep.					—	—	50	—	mA
RθJC	40346				—	15	—	—	°C/W
	40412				—	—	—	15	

^a CAUTION: Sustaining voltage VCER(sus), MUST NOT be measured on a curve tracer.

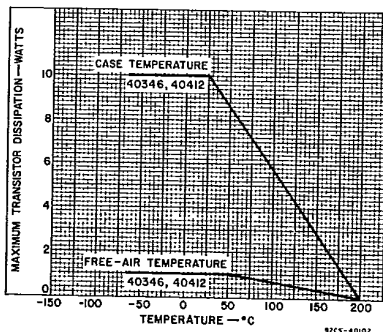


Fig. 1 - Dissipation derating curves.

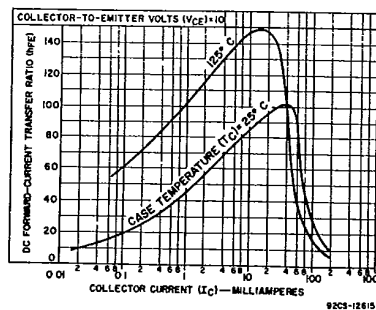


Fig. 2 - Typical dc beta characteristics for all types.

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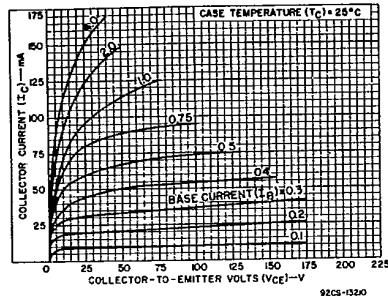


Fig. 3 - Typical output characteristics for all types.

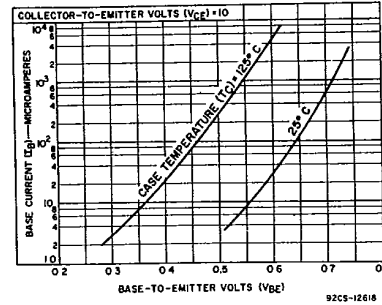


Fig. 4 - Typical input characteristics for all types.

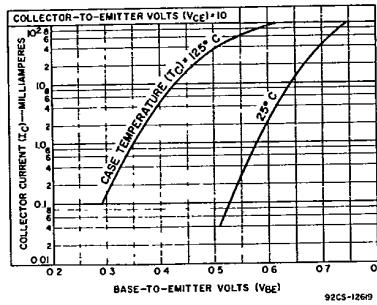


Fig. 5 - Typical transfer characteristics for all types.