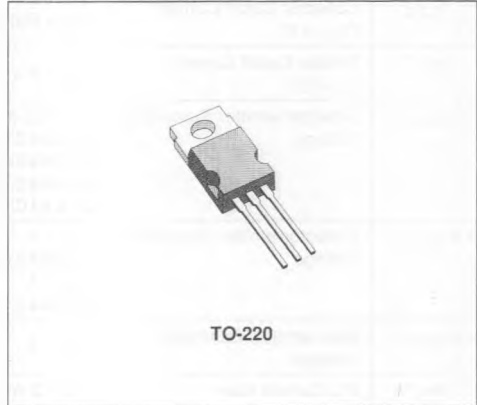


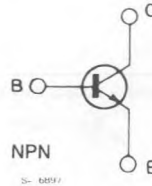
## LINEAR AND SWITCHING APPLICATIONS

### DESCRIPTION

The D44C1 to D44C12 are silicon multi-epitaxial planar transistors in TO-220 plastic package intended for linear and switching applications.



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value				Unit
		D44C 1/2/3	D44C 4/5/6	D44C 7/8/9	D44C 10/11/12	
$V_{CES}$	Collector-emitter Voltage ( $V_{BE} = 0$ )	40	55	70	90	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	30	45	60	80	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	5	5	5	5	V
$I_C$	Collector Current	4				A
$I_{CM}$	Collector Peak Current ( $t_p = 10$ ms)	6				A
$P_{tot}$	Total Power Dissipation $T_{case} \leq 25$ °C $T_{amb} \leq 25$ °C	30				W
		1.67				W
$T_{stg}$	Storage Temperature	- 55 to 150				°C
$T_j$	Junction Temperature	150				°C

**THERMAL DATA**

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	4.2	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	75	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25\text{ °C}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cutoff Current ( $V_{BE} = 0$ )	$V_{CE} = \text{Rated } V_{CES}$			10	$\mu\text{A}$
$I_{EBO}^*$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 5\text{ V}$			100	$\mu\text{A}$
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 100\text{ mA}$ for <b>D44C1-2-3</b> for <b>D44C4-5-6</b> for <b>D44C7-8-9</b> for <b>D44C10-11-12</b>	30 45 60 80			V V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 1\text{ A}$ $I_B = 50\text{ mA}$ for <b>D44C2-3-5-6-8-9-11-12</b> $I_C = 1\text{ A}$ $I_B = 0.1\text{ A}$ for <b>D44C1-4-7-10</b>			0.5 0.5	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 1\text{ A}$ $I_B = 100\text{ mA}$			1.3	V
$h_{FE}^*$	DC Current Gain	$I_C = 0.2\text{ A}$ $V_{CE} = 1\text{ V}$ $I_C = 2\text{ A}$ $V_{CE} = 1\text{ V}$ for <b>D44C3-6-9-12</b> $I_C = 0.2\text{ A}$ $V_{CE} = 1\text{ V}$ $I_C = 1\text{ A}$ $V_{CE} = 1\text{ V}$ for <b>D44C2-5-8-11</b> $I_C = 0.2\text{ A}$ $V_{CE} = 1\text{ V}$ $I_C = 1\text{ A}$ $V_{CE} = 1\text{ V}$ for <b>D44C1-4-7-10</b>	40 20 100 20 25 10		120 220	

\* Pulsed . pulse duration = 300 $\mu\text{s}$ , duty cycle = 2%