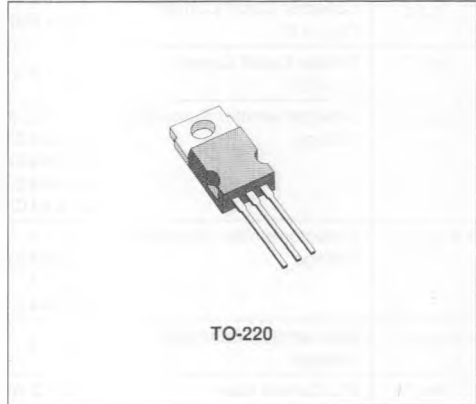


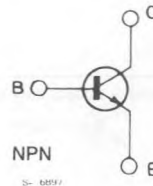
LINEAR AND SWITCHING APPLICATIONS

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	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	75	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25\ ^{\circ}C$ 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	μA
I_{EBO}^*	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5\ V$			100	μA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 100\ mA$ for D44C1-2-3 for D44C4-5-6 for D44C7-8-9 for D44C10-11-12	30 45 60 80			V V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 1\ A$ $I_B = 50\ mA$ for D44C2-3-5-6-8-9-11-12 $I_C = 1\ A$ $I_B = 0.1\ A$ for D44C1-4-7-10			0.5 0.5	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 1\ A$ $I_B = 100\ mA$			1.3	V
h_{FE}^*	DC Current Gain	$I_C = 0.2\ A$ $V_{CE} = 1\ V$ $I_C = 2\ A$ $V_{CE} = 1\ V$ for D44C3-6-9-12 $I_C = 0.2\ A$ $V_{CE} = 1\ V$ $I_C = 1\ A$ $V_{CE} = 1\ V$ for D44C2-5-8-11 $I_C = 0.2\ A$ $V_{CE} = 1\ V$ $I_C = 1\ A$ $V_{CE} = 1\ V$ for D44C1-4-7-10	40 20 100 20 25 10		120 220	

* Pulsed . pulse duration = 300 μs , duty cycle = 2%