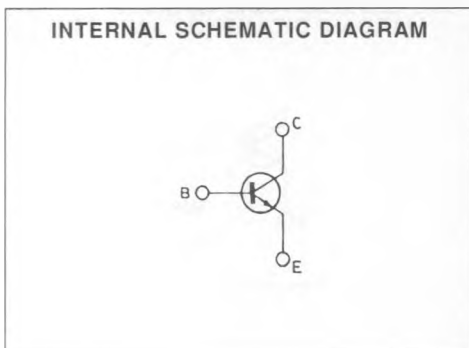
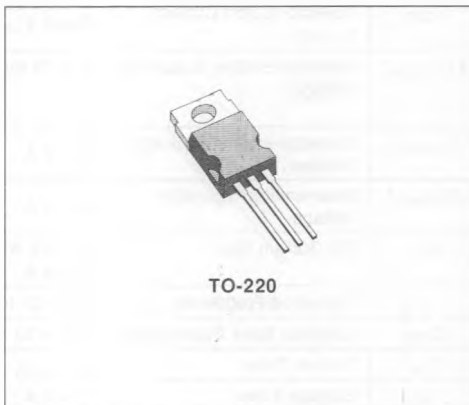


**MULTIEPITAXIAL PLANAR NPN**

**DESCRIPTION**

The D44Q1, D44Q3, D44Q5 are silicon multiepitaxial planar transistors in TO-220 plastic package intended for linear and switching applications.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value			Unit
		D44Q1	D44Q3	D44Q5	
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	200	250	300	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	125	175	225	V
$V_{EBO}$	Emitter-base Voltage ( $I_B = 0$ )	7	7	7	V
$I_C$	Collector Current	4			A
$P_{TOT}$	Total Power Dissipation $T_{case} \leq 25^\circ C$ $T_{amb} \leq 25^\circ C$	31.25			W
		1.67			W
$T_{stg}$	Storage Temperature	- 55 to 150			$^\circ C$
$T_J$	Junction Temperature	150			$^\circ C$

## THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	4	$^{\circ}C/W$
$R_{th\ j-amb}$	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
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	Rated $V_{CE0}$			10	$\mu A$
$V_{CE0(sus)}^*$	Collector Emitter Sustaining Voltage	$I_C = 10\ mA$ for <b>D44Q1</b> for <b>D44Q3</b> for <b>D44Q5</b>	125 175 225			V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 2\ A$ $I_B = 0.2\ A$			1	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 2\ A$ $I_B = 0.2\ A$			1.3	V
$h_{FE}^*$	DC Current Gain	$I_C = 0.2\ A$ $V_{CE} = 10\ V$ $I_C = 2\ A$ $V_{CE} = 10\ V$	30 20			
$f_T$	Transition Frequency	$I_C = 100\ mA$ $V_{CE} = 10\ V$		20		MHz
$C_{CBO}$	Collector Base Capacitance	$V_{CB} = 10\ V$ $f = 1\ MHz$		32		pF
$t_{on}$	Turn-in Time	$V_{CC} = 50\ V$ $I_C = 1\ A$ $I_{B1} = -I_{B2} = 0.1\ A$			0.4	$\mu s$
$t_s$	Storage Time				2	$\mu s$
$t_f$	Fall Time				1.7	$\mu s$

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