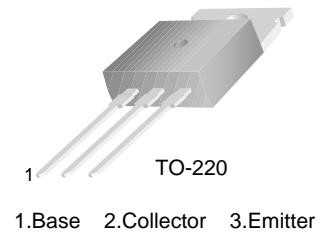


# D44H11TU

## NPN Epitaxial Silicon Transistor

- Low Collector-Emitter Saturation Voltage :  $V_{CE(sat)} = 1V$  (Max.) @ 8A
- Fast Switching Speeds
- Complement to KSE45H



### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	10	A
$I_{CP}$	Collector-Current (Pulse)	20	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	50	W
	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1.67	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	80			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 500\mu\text{A}, I_C = 0$	5			V
$I_{CES}$	Collector Cut-off Current	$V_{CE} = \text{Rated } V_{CEO}, V_{EB} = 0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5V, I_C = 0$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 1V, I_C = 2A$	60			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 8A, I_B = 0.4A$			1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 8A, I_B = 0.8A$			1.5	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 10V, I_C = 0.5A$		50		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10V, f = 1\text{MHz}$		130		pF
$t_{ON}$	Turn On Time	$V_{CC} = 20V, I_C = 5A$ $I_{B1} = - I_{B2} = 0.5A$		300		ns
$t_{STG}$	Storage Time			500		ns
$t_F$	Fall Time			140		ns

**NOTES:**

- 1) These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- 3) These ratings are based on a maximum junction temperature of 150degrees C.

## Typical Performance Characteristics

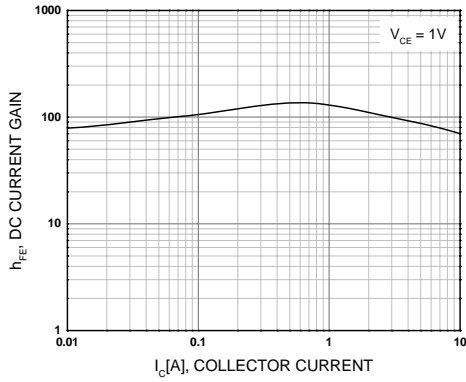


Figure 1. DC current Gain

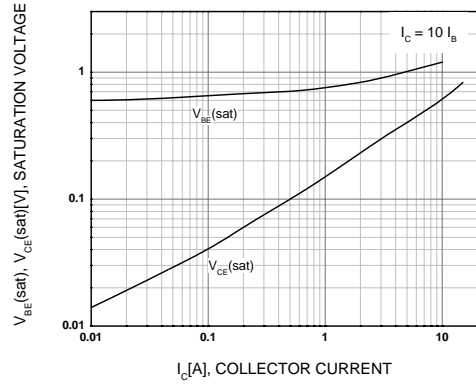


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

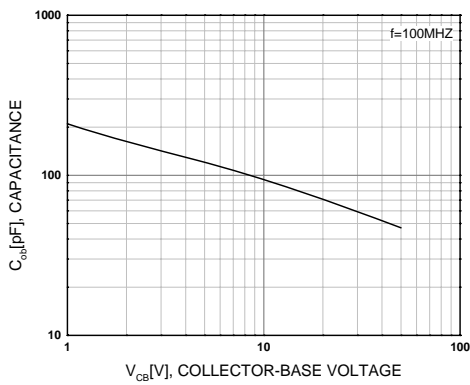


Figure 3. Collector Output Capacitance

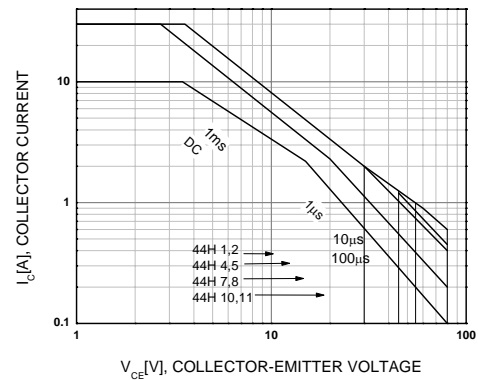


Figure 4. Safe Operating Area

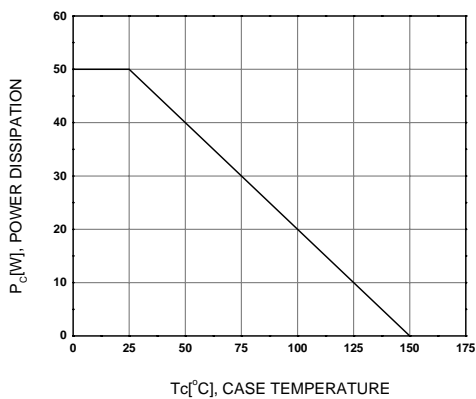
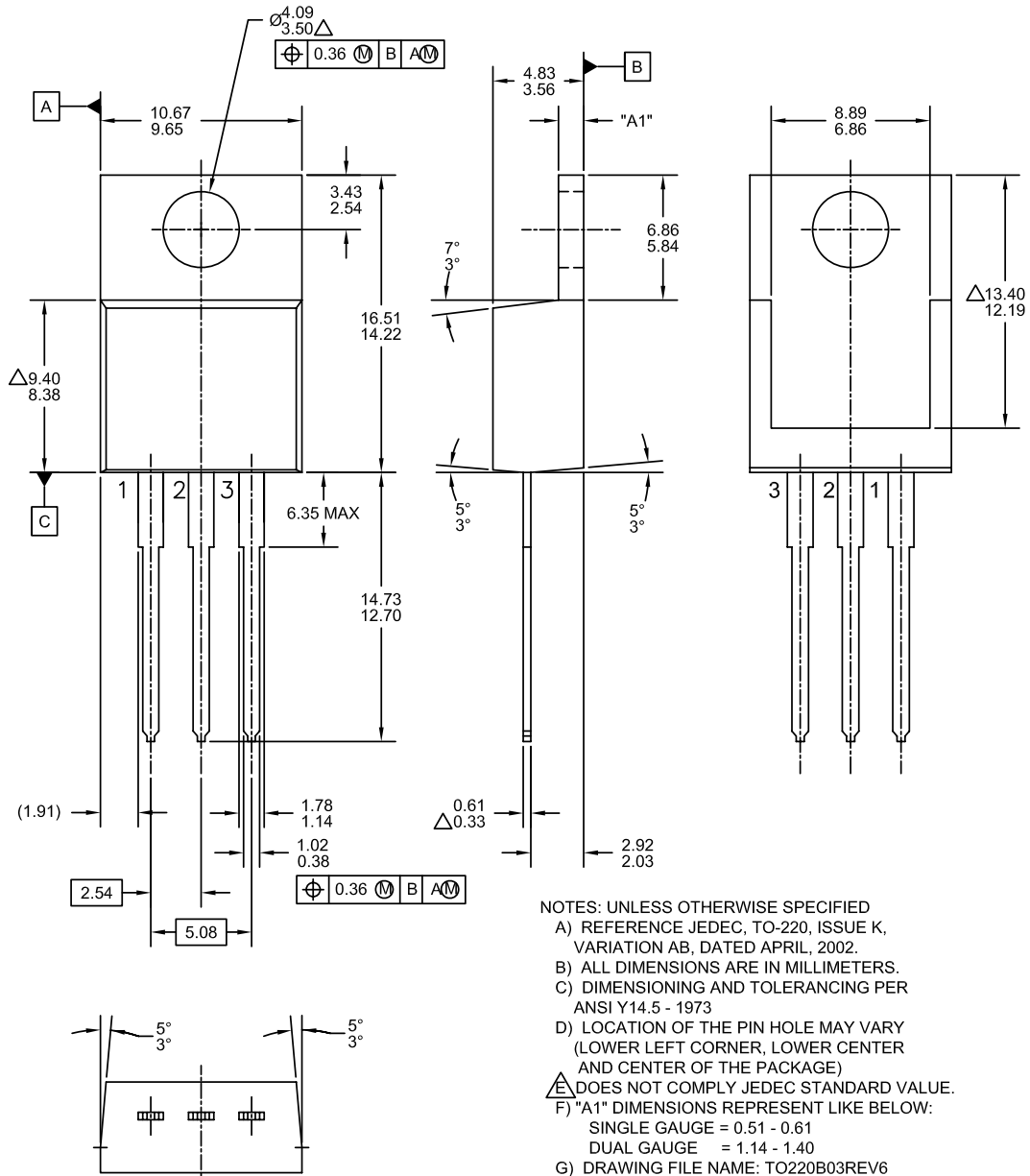


Figure 5. Power Derating

**Mechanical Dimensions**

**TO-220**










Dimensions in Millimeters



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