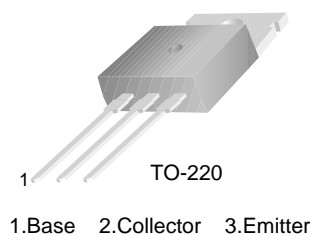


D44H11TU

NPN Epitaxial Silicon Transistor

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



Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ 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
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 to 150	$^\circ\text{C}$

Thermal Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	$T_c = 25^\circ\text{C}$	50
		$T_a = 25^\circ\text{C}$	1.67
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.5	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	74.8	$^\circ\text{C/W}$

Electrical Characteristics $T_a = 25^\circ\text{C}$ 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	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			100	μA
h_{FE}	DC Current Gain	$V_{CE} = 1\text{V}, I_C = 2\text{A}$	60			
$V_{CE(\text{sat})}$	Collector-Emitter Saturation Voltage	$I_C = 8\text{A}, I_B = 0.4\text{A}$			1	V
$V_{BE(\text{sat})}$	Base-Emitter Saturation Voltage	$I_C = 8\text{A}, I_B = 0.8\text{A}$			1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}$		50		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		130		pF
t_{ON}	Turn On Time	$V_{CC} = 20\text{V}, I_C = 5\text{A}$ $I_{B1} = - I_{B2} = 0.5\text{A}$		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

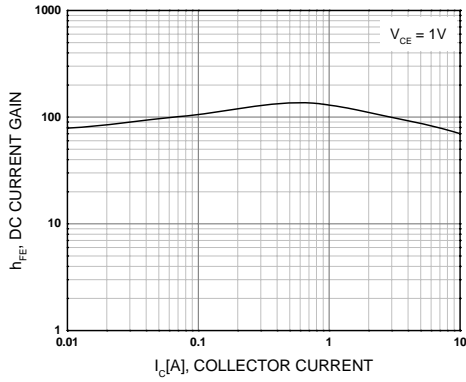


Figure 1. DC current Gain

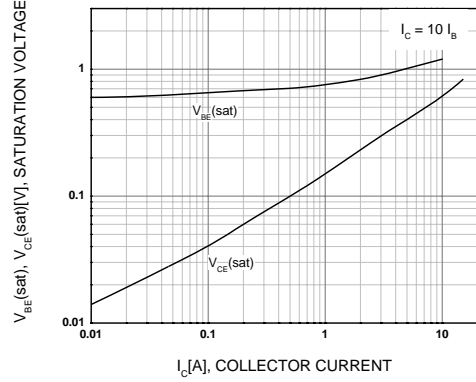


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

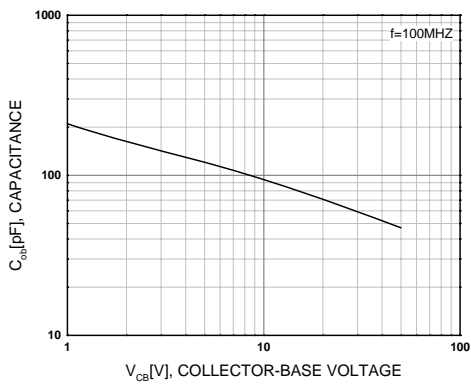


Figure 3. Collector Output Capacitance

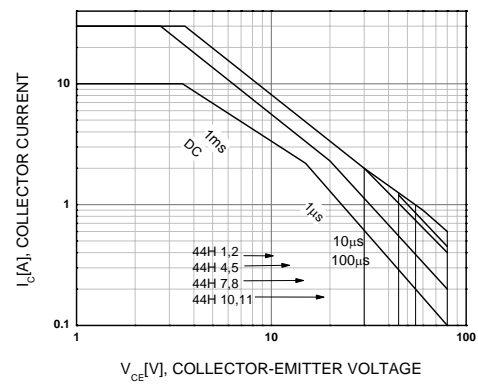


Figure 4. Safe Operating Area

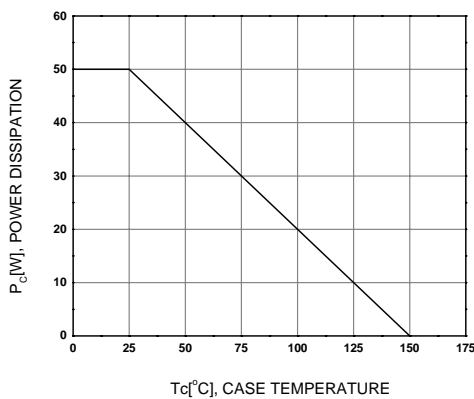
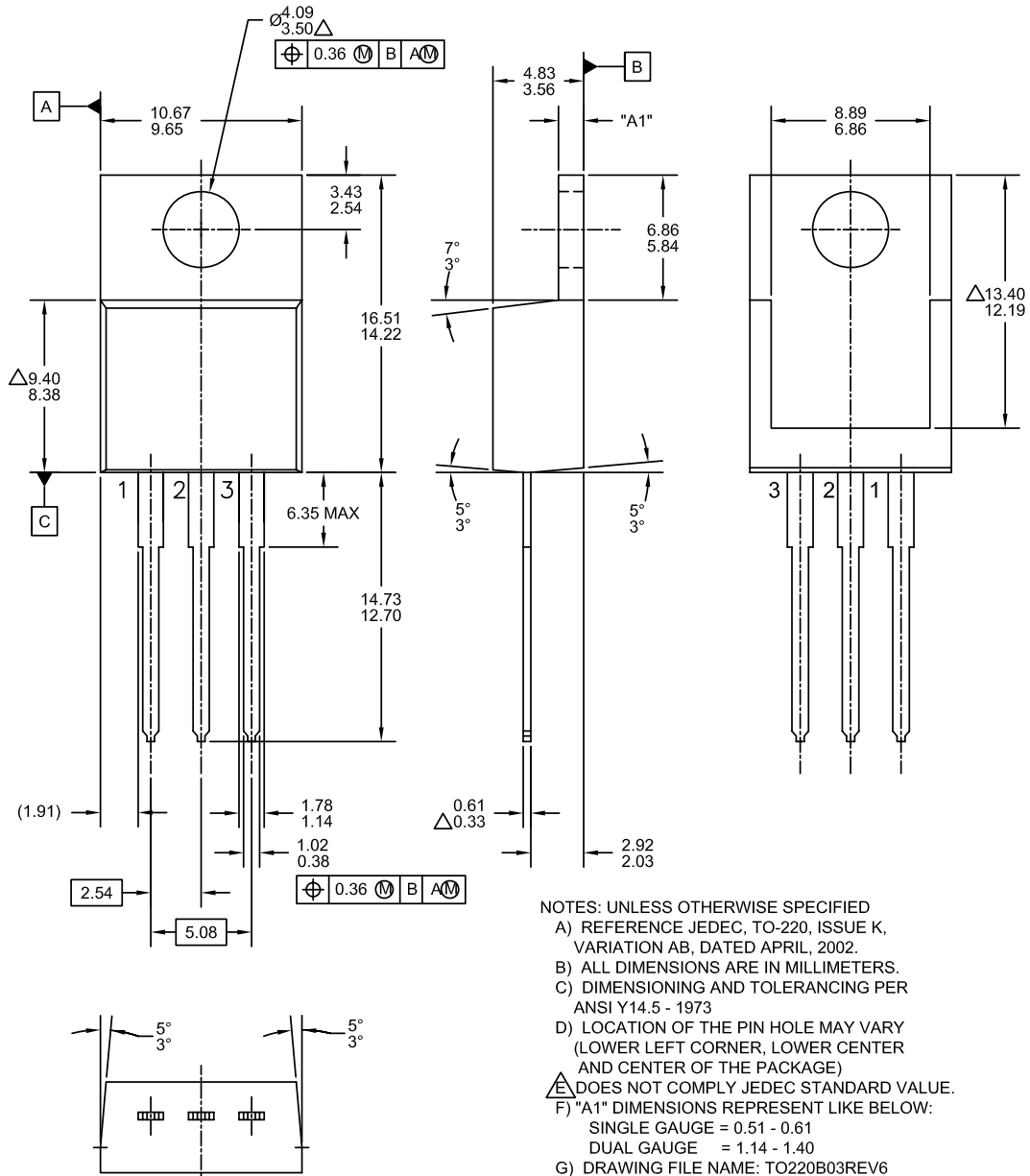


Figure 5. Power Derating

Mechanical Dimensions

TO-220






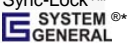


Dimensions in Millimeters



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