

**Silicon NPN Power Transistors**

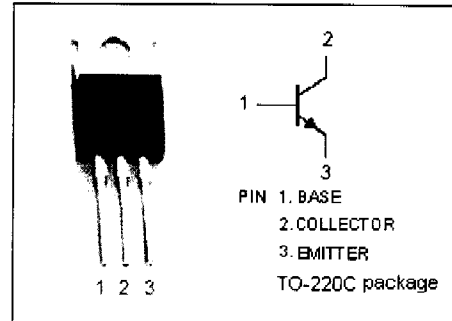
**D44T1/2**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
 :  $V_{CE0(SUS)} = 250V$  (Min)
- High Switching Speed
- Low Saturation Voltage

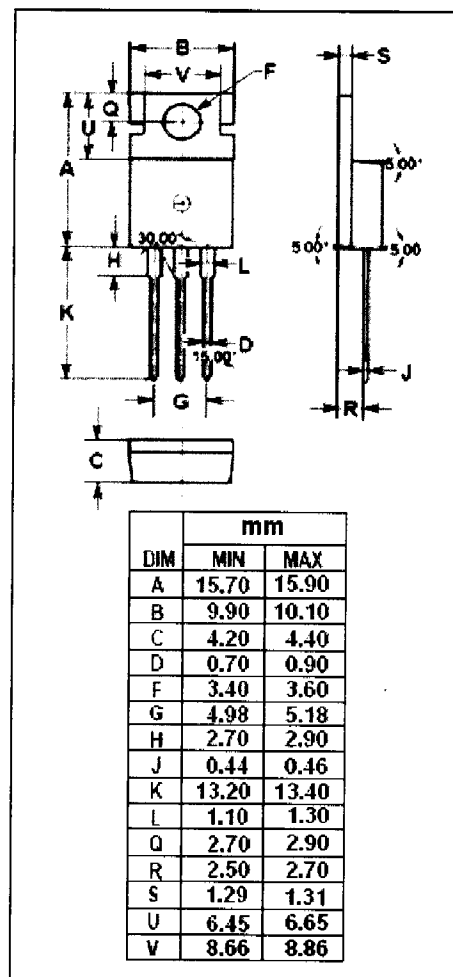
**APPLICATIONS**

- Designed for general purpose amplifier and switching applications.



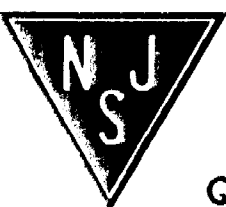
**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector-Emitter Voltage $V_{BE} = 0$	300	V
$V_{CEO}$	Collector-Emitter Voltage	250	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	2	A
$I_{CM}$	Collector Current-Peak	4	A
$I_B$	Base Current-Continuous	0.5	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	31.2	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4	$^\circ C/W$



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

# Silicon NPN Power Transistors

# D44T1/2

## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = 0.5\text{A}; I_B = 50\text{mA}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C = 0.5\text{A}; I_B = 50\text{mA}$			1.2	V
$I_{CES}$	Collector Cutoff Current		$V_{CE} = 300\text{V}; V_{BE} = 0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current		$V_{EB} = 5\text{V}; I_C = 0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	D44T1	$I_C = 0.5\text{A}; V_{CE} = 10\text{V}$	30		90	
		D44T2		75		175	
$h_{FE-2}$	DC Current Gain	D44T1	$I_C = 50\text{mA}; V_{CE} = 10\text{V}$	20			
		D44T2		40			
$f_T$	Current-Gain—Bandwidth Product		$I_C = 0.1\text{A}; V_{CE} = 10\text{V}; f_{test} = 1\text{MHz}$		15		MHz
$t_r$	Rise Time		$I_C = 0.5\text{A}; I_{B1} = -I_{B2} = 50\text{mA}$			0.3	$\mu\text{s}$
$t_{stg}$	Storage Time					3.0	$\mu\text{s}$
$t_f$	Fall Time					0.7	$\mu\text{s}$