

**10 AMPERES COMPLEMENTARY
SILICON POWER TRANSISTORS 60,80 VOLTS**

FEATURES

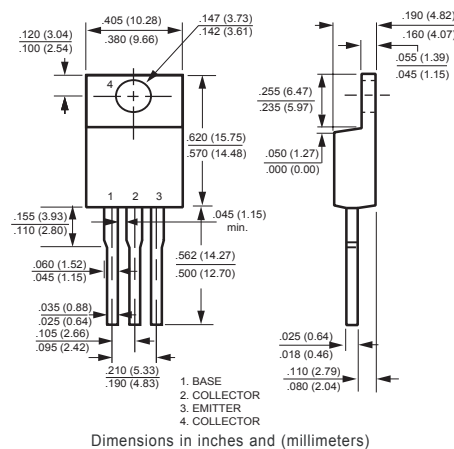
- * ...for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converter and power amplifiers.
- * Low Collector-Emitter Saturation Voltage
 $V_{CE(sat)} = 1.0 \text{ V (max.) @8.0A}$
- * Fast Switching Speeds
- * Complementary Pairs Simplifies Designs

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.



TO-220AB



MAXIMUM RATINGS (@ $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	SYMBOL	D44H or D45H		UNITS
		8	10, 11	
Collector-Emitter voltage	V _{CEO}	60	80	V
Emitter-Base voltage	V _{EB}	5		V
Collector current-Continuous -Peak (Note 1)	I _C	10 20		A
Collector Power dissipation @T _C =25°C @T _A =25°C	P _d	5.0 1.67		W
Thermal Resistance	R _{θJA}	75		°C/W
	R _{θJC}	2.5		
Lead Temperature for Soldering Purposes: 1/8" from case for 5 sec.	T _L	260		°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150		°C

Notes: 1. Pulse Width $\leq 6.0\text{ms}$, Duty Cycle $\leq 50\%$

2. "Fully RoHS Compliant", "100% Sn Plating (Pb-free)".

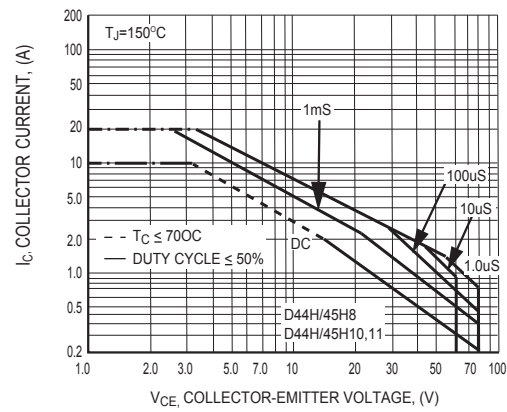
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ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	MIN	TYP	MAX	UNITS
Collector cutoff current ($V_{CE} = \text{Rated } V_{CE0}, V_{BE} = 0$)		I_{CES}	-	-	10	μA
Emitter cutoff current ($V_{EB} = 5V_{dc}$)		I_{EBO}	-	-	100	μA
DC current gain ($V_{CE} = 1.0V, I_C = 2.0Adc$)	D44H10,D45H10	h_{FE}	35	-	-	-
	D44H8,11 D45H8,11		60	-	-	-
DC current gain ($V_{CE} = 1.0V, I_C = 4.0Adc$)	D44H10,D45H10	h_{FE}	20	-	-	-
	D44H8,11 D45H8,11		40	-	-	-
Collector-emitter saturation voltage ($I_C = 8.0Adc, I_B = 0.4Adc$) ($I_C = 8.0Adc, I_B = 0.8Adc$)	D44H/D45H8,11	$V_{CE(sat)}$	-	-	1.0	V
	D44H/D45H10		-	-	1.0	V
Base-emitter saturation voltage ($I_C = 8.0Adc, I_B = 0.8Adc$)		$V_{BE(sat)}$	-	-	1.5	V
Collector Capacitance ($V_{CB} = 10V, f_{test} = 1.0 \text{ MHz}$)	D44H Series	C_{cb}	-	130	-	pF
	D45H Series		-	230	-	pF
Gain Bandwidth Product ($I_C = 0.5Adc, V_{CE} = 10V_{dc}, f = 20 \text{ MHz}$)	D44H Series	f_T	-	50	-	MHz
	D45H Series		-	40	-	MHz
Delay and Rise Times ($I_C = 5.0Adc, I_{B1} = 0.5Adc$)	D44H Series	$t_d + t_r$	-	300	-	nS
	D45H Series		-	135	-	nS
Storage Time ($I_C = 5.0Adc, I_{B1} = I_{B2} = 0.5Adc$)	D44H Series	t_s	-	500	-	nS
	D45H Series		-	500	-	nS
Fall Time ($I_C = 5.0Adc, I_{B1} = I_{B2} = 0.5Adc$)	D44H Series	t_f	-	140	-	nS
	D45H Series		-	100	-	nS

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RATING AND CHARACTERISTICS CURVES (D44H and D45H Series)



**Figure Maximum Rated Forward Bias
Safe Operating Area**

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