D44H8
D44H11

NPN SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE
- FAST SWITCHING SPEED

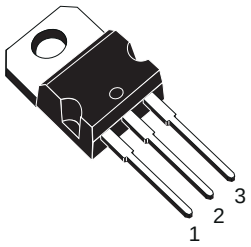
APPLICATIONS
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIER

DESCRIPTION

The D44H8, and D44H11 are silicon Multiepitaxial Planar NPN transistors mounted in Jedec TO-220 plastic package.

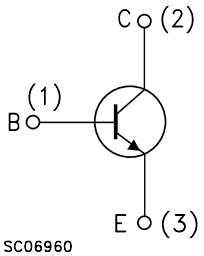
They are inteded for various switching and general purpose applications.

D44H8, D44H11 are complementary with D45H8, D45H11.



TO-220

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		D44H8	D44H11	
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	60	80	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	5		V
I_C	Collector Current	10		A
I_{CM}	Collector Peak Current	20		A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	50		W
T_{stg}	Storage Temperature	-65 to 150		^oC
T_j	Max. Operating Junction Temperature	150		^oC

THERMAL DATA

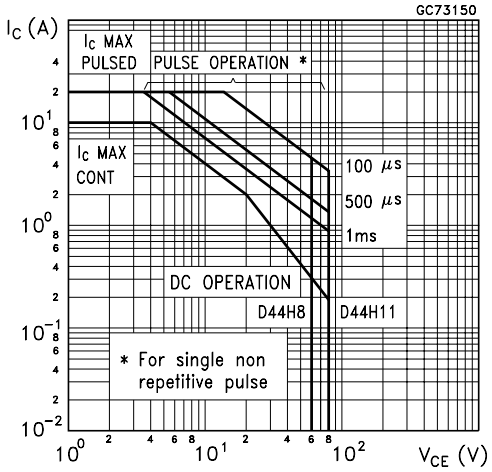
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.5	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

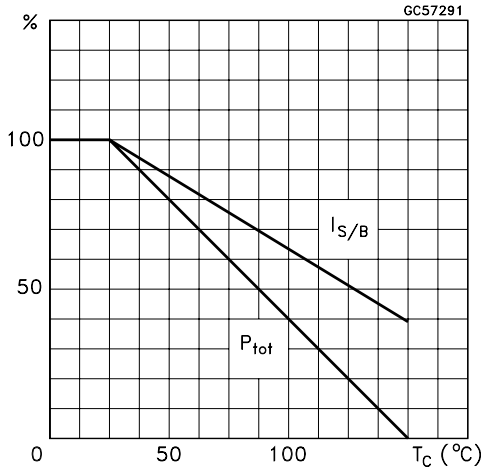
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = rated V_{CEO}			10	µA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5V			100	µA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 100 mA for **D44H8** for **D44H11**	 60 80			 V V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 8 A I_B = 0.4 A			1	V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 8 A I_B = 0.8 A			1.5	V
h_{FE}*	DC Current Gain	I_C = 2 A V_{CE} = 1 V I_C = 4 A V_{CE} = 1 V	60 40			

* Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

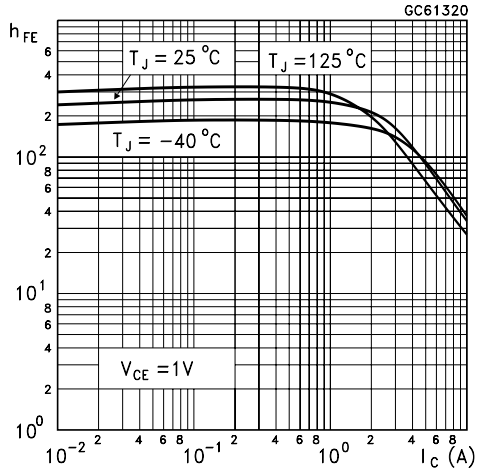
Safe Operating Area



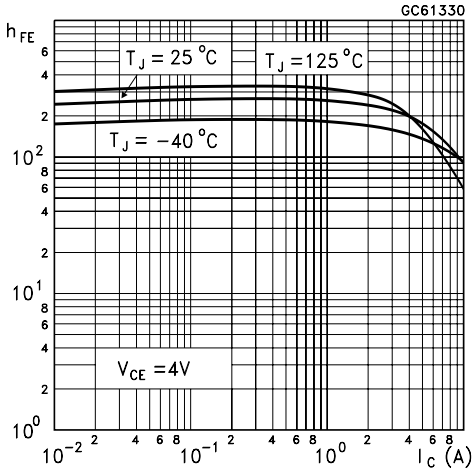
Derating Curves



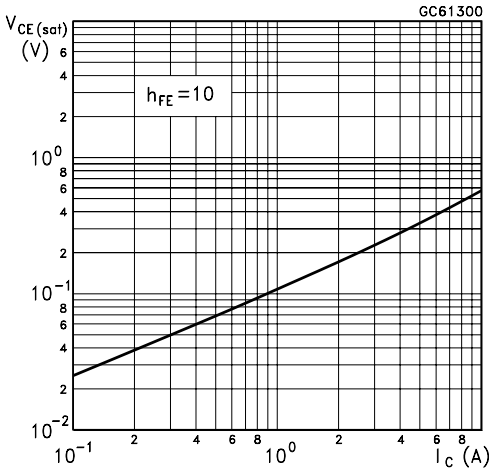
DC Current Gain



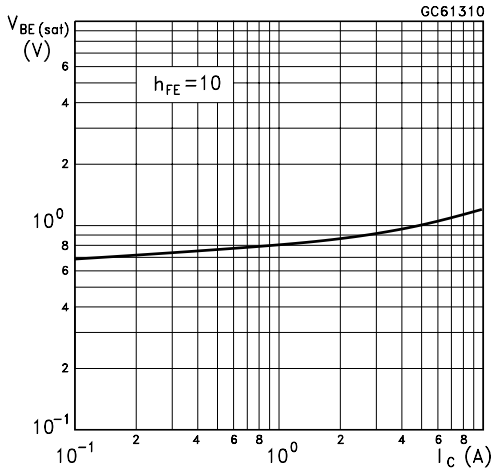
DC Current Gain



Collector-Emitter Saturation Voltage

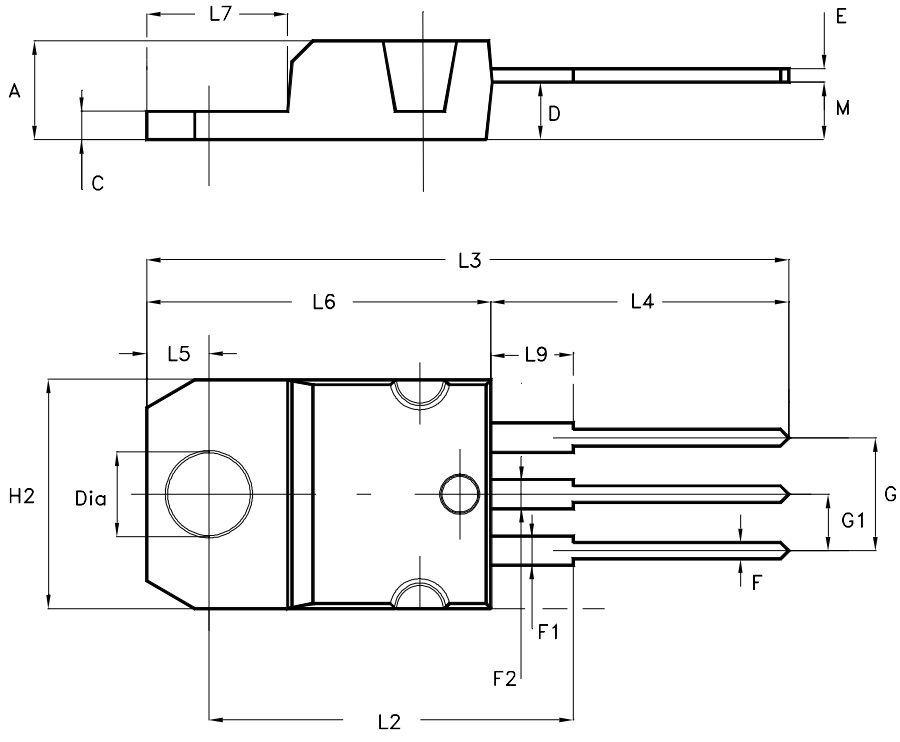


Base-Emitter Saturation Voltage



TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.052
D	2.40		2.72	0.094		0.107
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.202
G1	2.40		2.70	0.094		0.106
H2	10.00		10.40	0.394		0.409
L2		16.40			0.645	
L4	13.00		14.00	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.20		6.60	0.244		0.260
L9	3.50		3.93	0.137		0.154
M		2.60			0.102	
DIA.	3.75		3.85	0.147		0.151



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