



**MJD44H11**  
**MJD45H11**

## COMPLEMENTARY SILICON PNP TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE
- FAST SWITCHING SPEED
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")

### APPLICATIONS

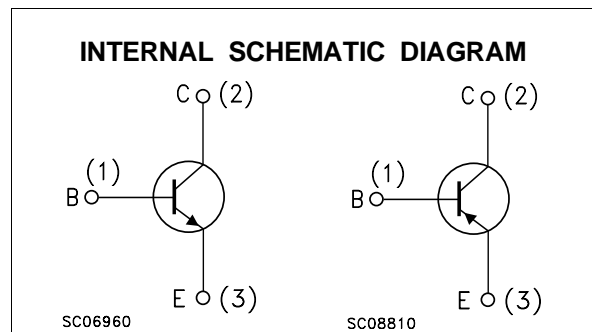
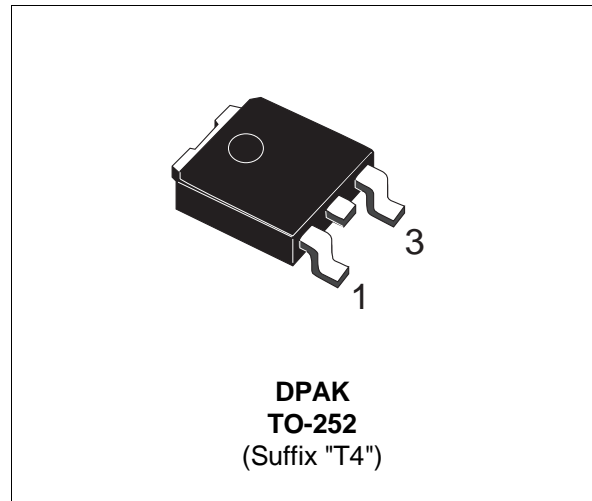
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIER

### DESCRIPTION

The MJD44H11 is a Silicon Multiepitaxial Planar NPN transistor mounted in DPAK plastic package.

It is intended for various switching and general purpose applications.

The complementary PNP type is MJD45H11



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	MJD44H11	
		PNP	MJD45H11	
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )		80	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )		5	V
$I_C$	Collector Current		8	A
$I_{CM}$	Collector Peak Current		16	A
$P_{tot}$	Total Dissipation at $T_c \leq 25^\circ\text{C}$		20	W
$T_{stg}$	Storage Temperature		-55 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature		150	$^\circ\text{C}$

For PNP types the values are intended negative.

# MJD44H11 / MJD45H11

## THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	6.25	°C/W
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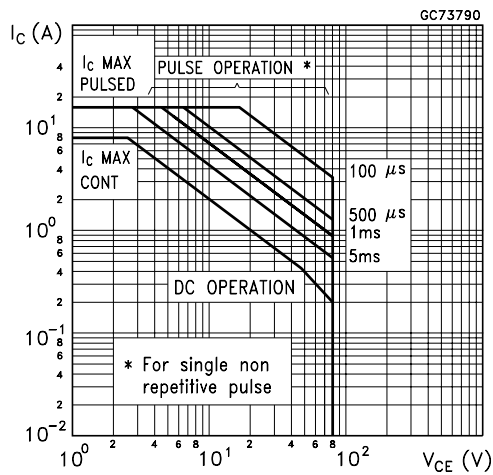
## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>CEO(sus)</sub> *	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30 mA	80			V
I <sub>CES</sub>	Collector Cut-off Current	V <sub>CB</sub> = rated V <sub>CEO</sub> V <sub>BE</sub> = 0			10	μA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = 5V			50	μA
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8 A I <sub>B</sub> = 0.4 A			1	V
V <sub>BE(sat)</sub> *	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8 A I <sub>B</sub> = 0.8 A			1.5	V
h <sub>FE</sub> *	DC Current Gain	I <sub>C</sub> = 2 A V <sub>CE</sub> = 1 V I <sub>C</sub> = 4 A V <sub>CE</sub> = 1 V	60 40			

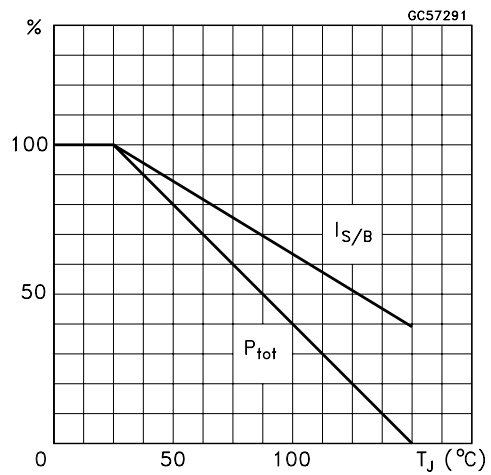
\* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

\* For PNP types the values are intended negative.

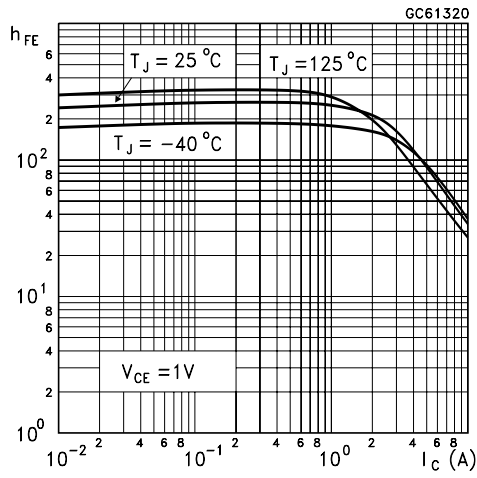
## Safe Operating Area



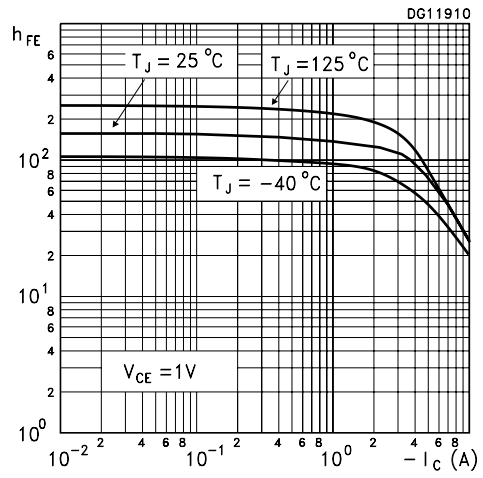
## Derating Curves



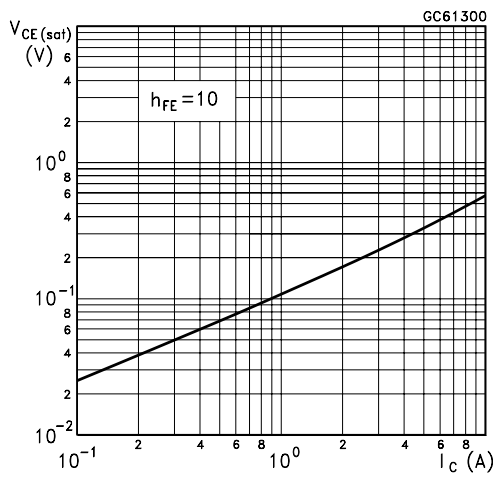
DC Current Gain (NPN type)



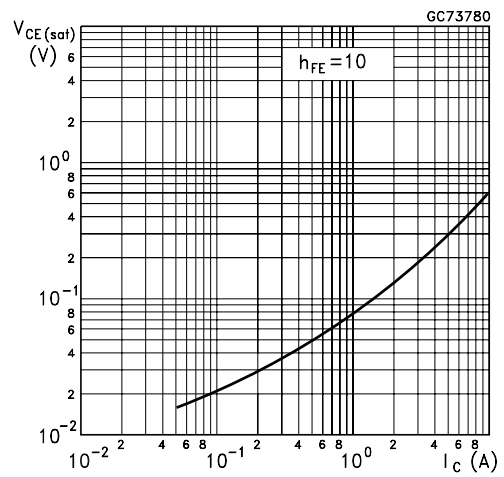
DC Current Gain (PNP type)



Collector-Emitter Saturation Voltage (NPN type)

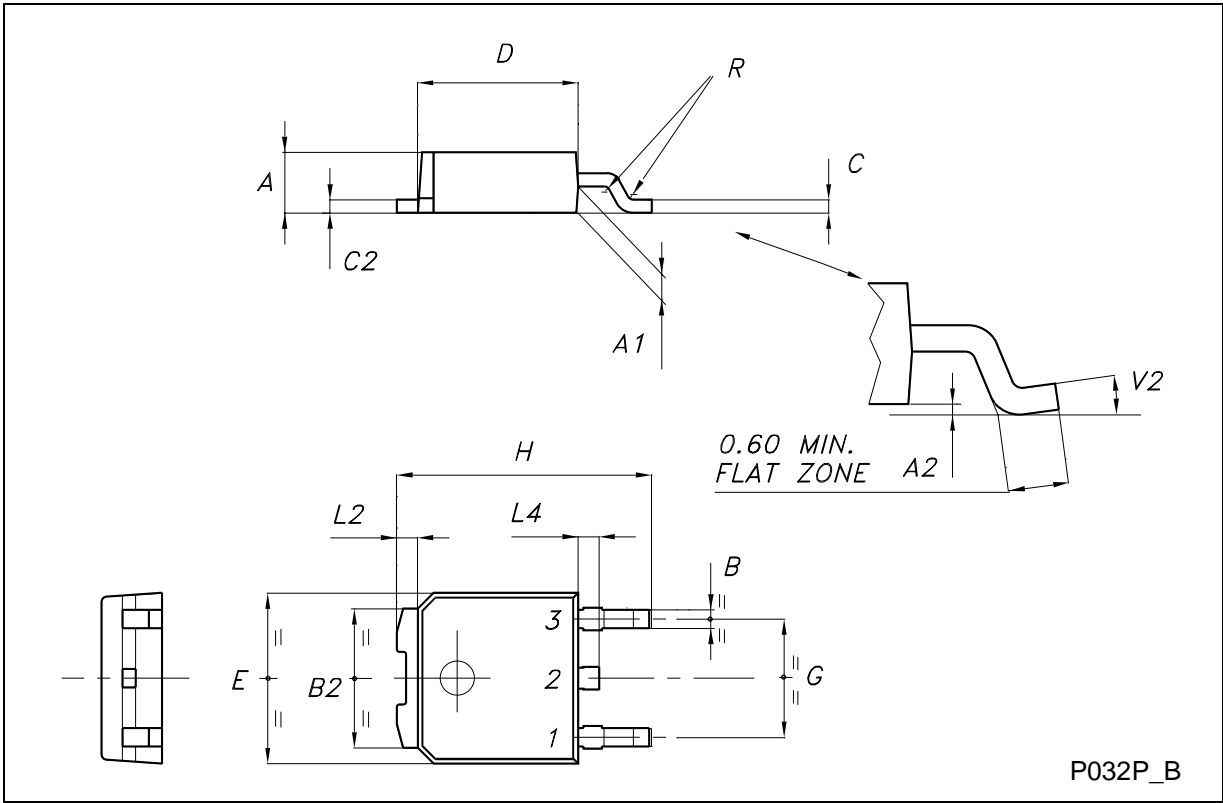


Collector-Emitter Saturation Voltage (PNP type)



**TO-252 (DPAK) MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.20		2.40	0.087		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.213
C	0.45		0.60	0.018		0.024
C2	0.48		0.60	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.252		0.260
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.398
L2		0.8			0.031	
L4	0.60		1.00	0.024		0.039
V2	0°		8°	0°		0°



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