

## COMPLEMENTARY SILICON PNP TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE
- FAST SWITCHING SPEED

### APPLICATIONS

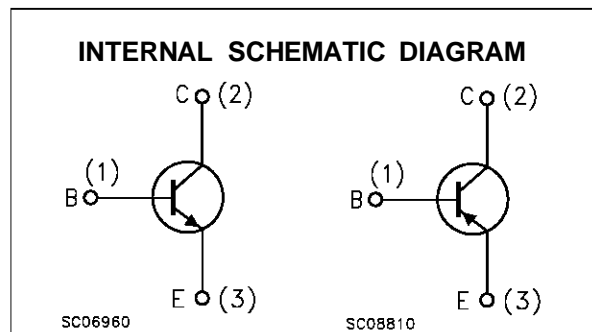
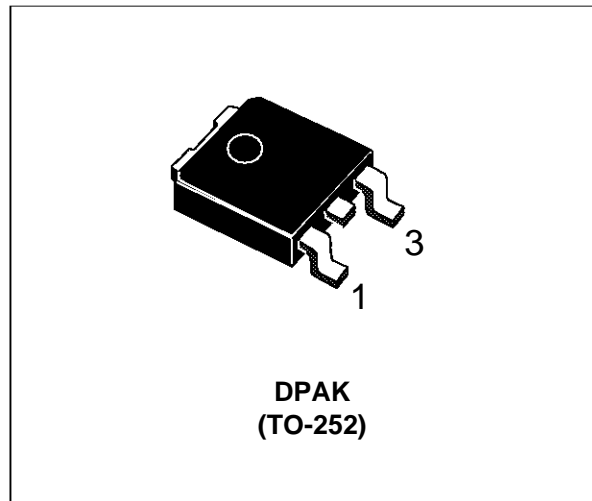
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIER

### DESCRIPTION

The MJD44H11 is a silicon multi-epitaxial planar NPN transistors 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	
$V_{CE0}$	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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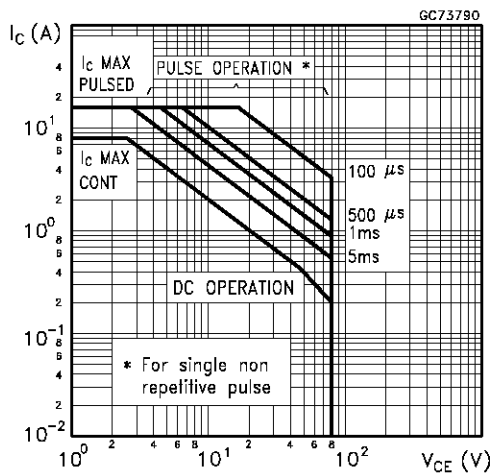
## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>CE(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			

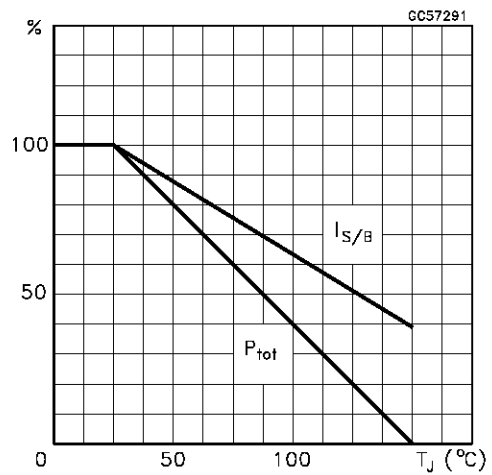
\* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2%

\* For PNP types the values are intended negative.

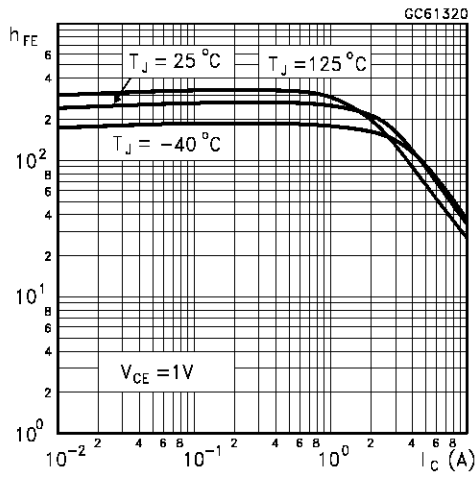
## Safe Operating Area



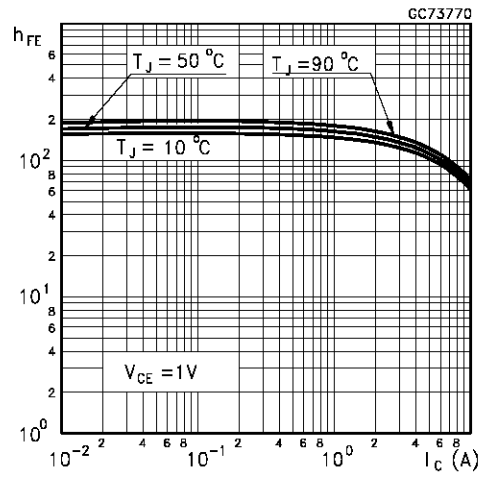
## Derating Curves



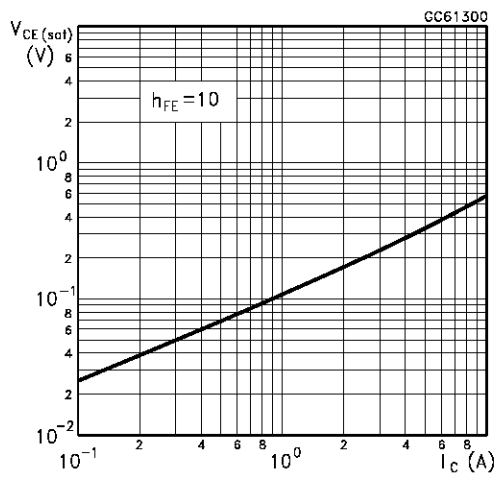
DC Current Gain (NPN type)



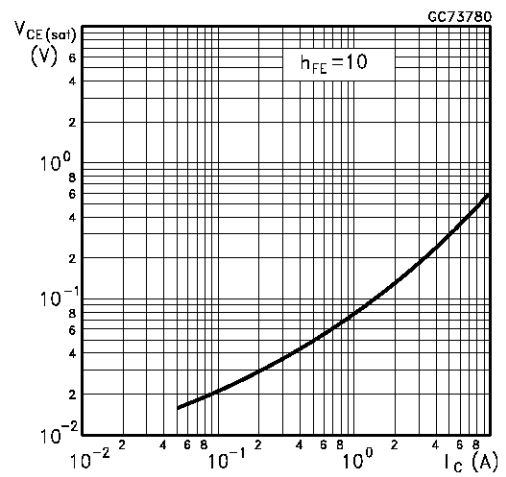
DC Current Gain (PNP type)



Collector-Emitter Saturation Voltage (NPN type)

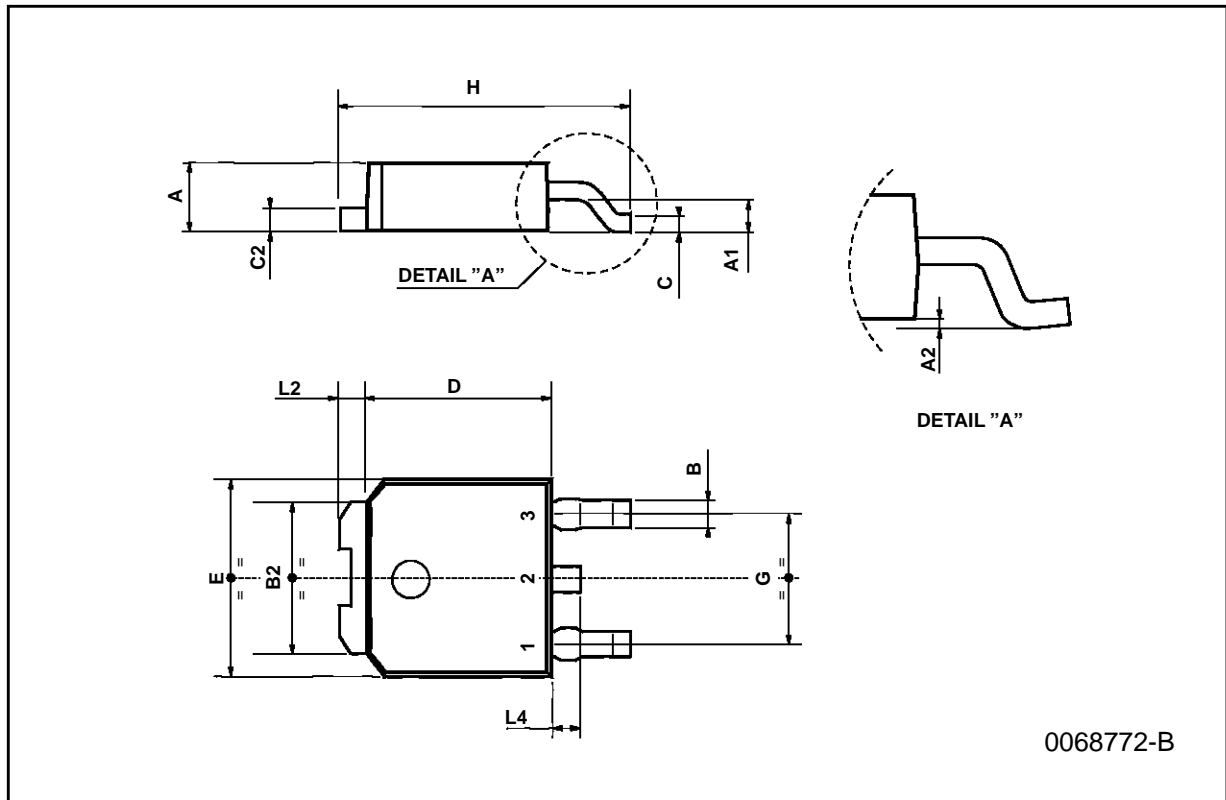


Collector-Emitter Saturation Voltage (PNP type)



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

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.2		2.4	0.086		0.094
A1	0.9		1.1	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.9	0.025		0.035
B2	5.2		5.4	0.204		0.212
C	0.45		0.6	0.017		0.023
C2	0.48		0.6	0.019		0.023
D	6		6.2	0.236		0.244
E	6.4		6.6	0.252		0.260
G	4.4		4.6	0.173		0.181
H	9.35		10.1	0.368		0.397
L2		0.8			0.031	
L4	0.6		1	0.023		0.039



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