

COMPLEMENTARY SILICON PNP TRANSISTORS

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

APPLICATIONS

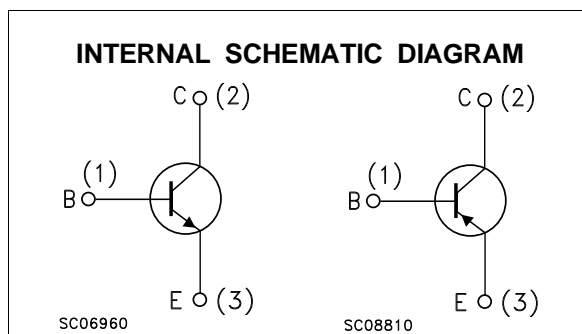
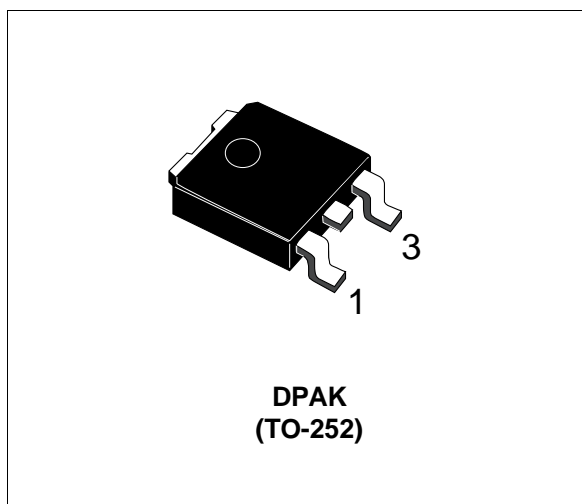
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIER

DESCRIPTION

The MJD44H11 is a silicon multiepitaxial 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

$R_{thj-case}$	Thermal Resistance Junction-case	Max	6.25	$^{\circ}C/W$
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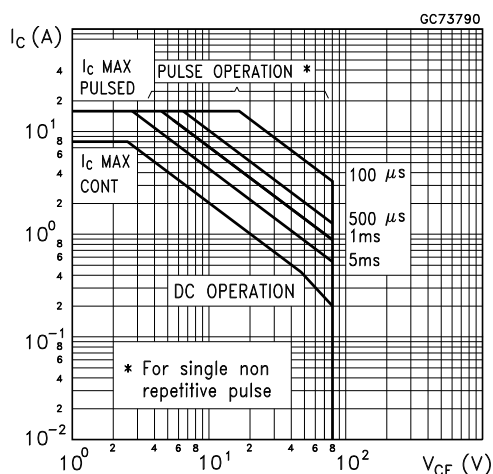
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CE(sus)}^*$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{ mA}$	80			V
I_{CES}	Collector Cut-off Current	$V_{CB} = \text{rated } V_{CEO} \quad V_{BE} = 0$			10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5V$			50	μA
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 8\text{ A} \quad I_B = 0.4\text{ A}$			1	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 8\text{ A} \quad I_B = 0.8\text{ A}$			1.5	V
h_{FE}^*	DC Current Gain	$I_C = 2\text{ A} \quad V_{CE} = 1\text{ V}$ $I_C = 4\text{ A} \quad V_{CE} = 1\text{ V}$	60 40			

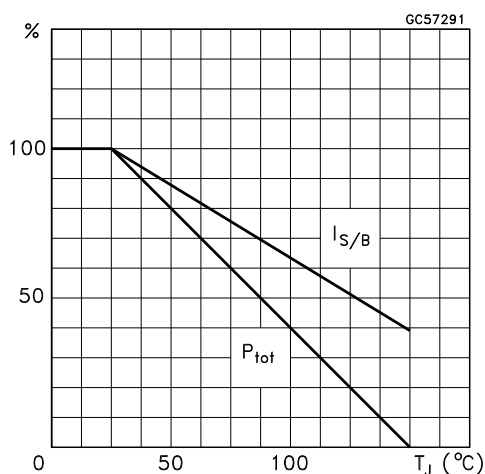
* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

* For PNP types the values are intended negative.

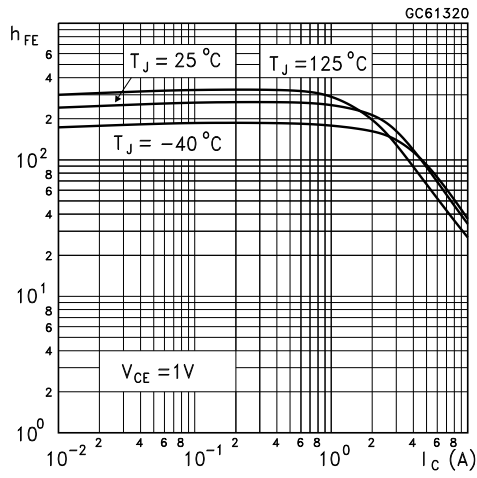
Safe Operating Area



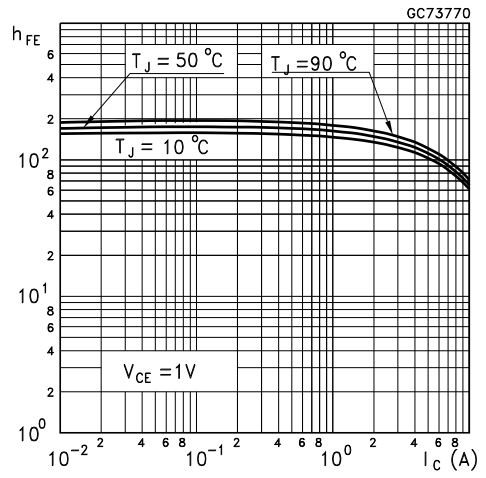
Derating Curves



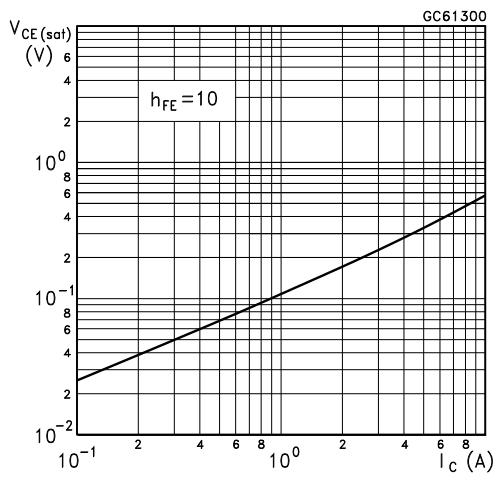
DC Current Gain (NPN type)



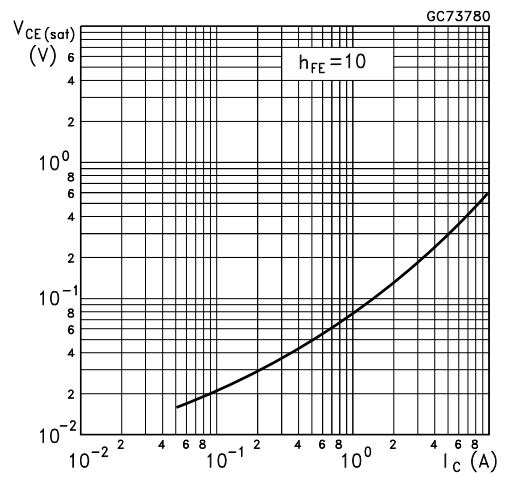
DC Current Gain (PNP type)



Collector-Emitter Saturation Voltage (NPN type)

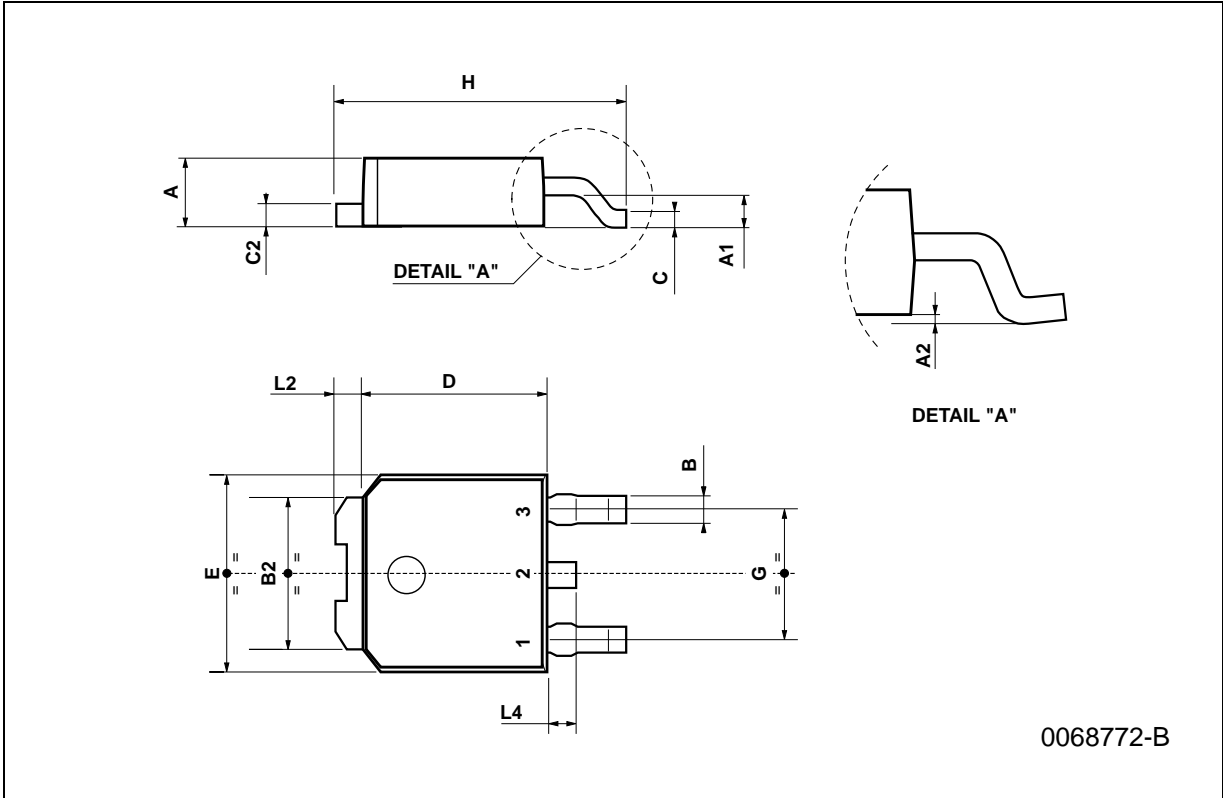


Collector-Emitter Saturation Voltage (PNP type)



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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