SGS-THOMSON MICROELECTRONICS

MJD44H11
MJD45H11

COMPLEMENTARY SILICON PNP TRANSISTORS

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

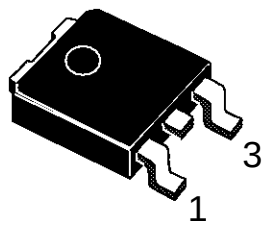
APPLICATIONS
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIER

DESCRIPTION

The MJD44H11 is a silicon multiepitaxial planar NPN transistors mounted in DPAK plastic package.

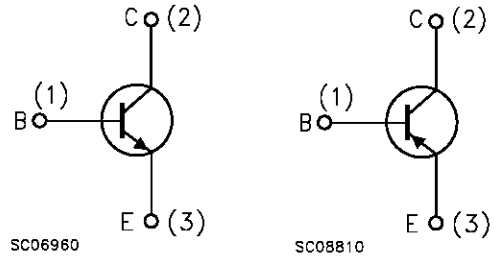
It is inteded for various switching and general purpose applications.

The complementary PNP type is MJD45H11.



DPAK
(TO-252)

INTERNAL SCHEMATIC DIAGRAM



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 $T_c \leq 25\ ^oC$		20	W
T_{stg}	Storage Temperature		-55 to 150	^oC
T_j	Max. Operating Junction Temperature		150	^oC

For PNP types the values are intented negative.

THERMAL DATA

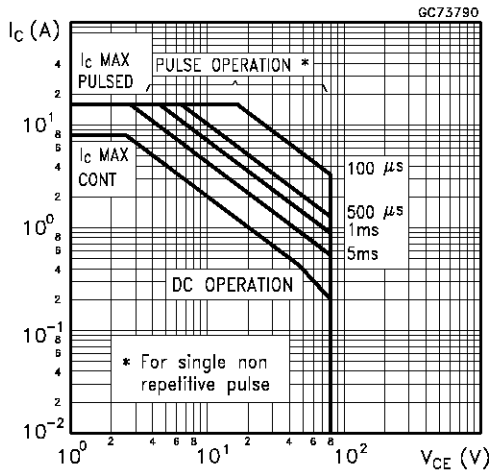
$R_{thj-case}$	Thermal Resistance Junction-case	Max	6.25	$^{o}C/W$

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

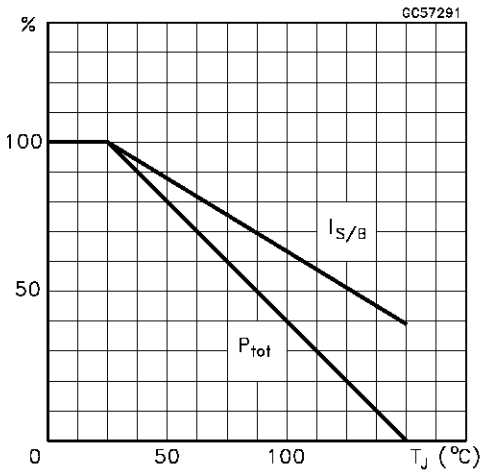
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 30 mA	80			V
I_{CES}	Collector Cut-off Current	V_{CB} = rated V_{CEO} V_{BE} = 0			10	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V			50	µA
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 8 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 %
* For PNP types the values are intented negative.

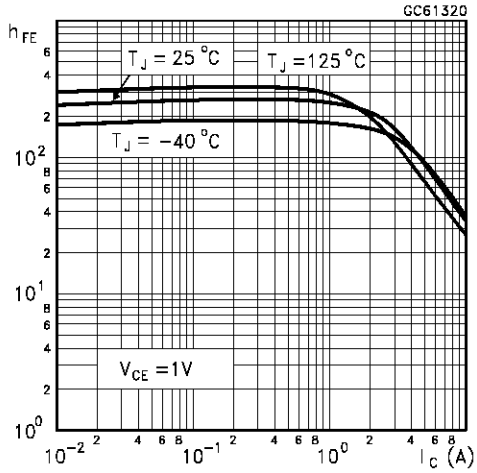
Safe Operating Area



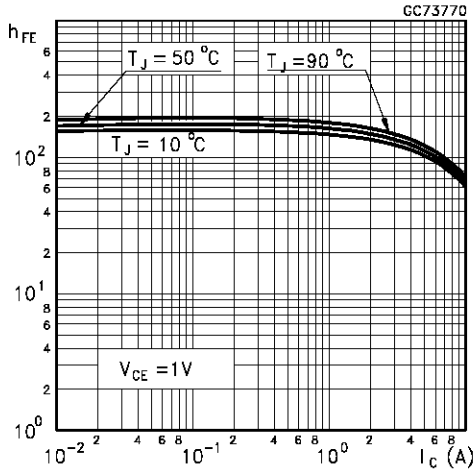
Derating Curves



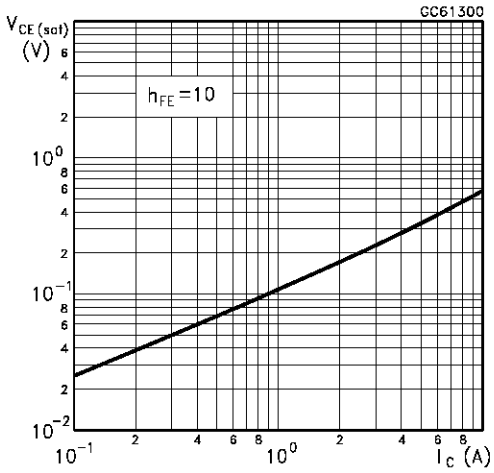
DC Current Gain (NPN type)



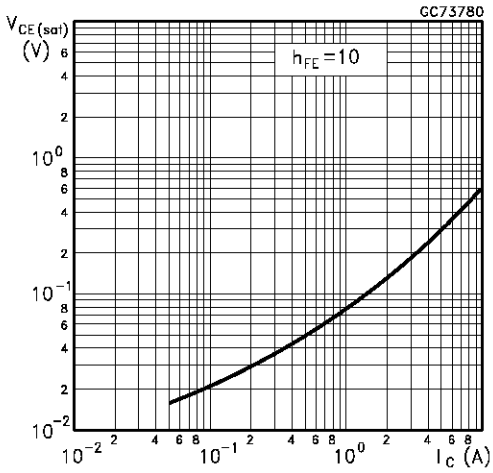
DC Current Gain (PNP type)



Collector-Emitter Saturation Voltage (NPN type)

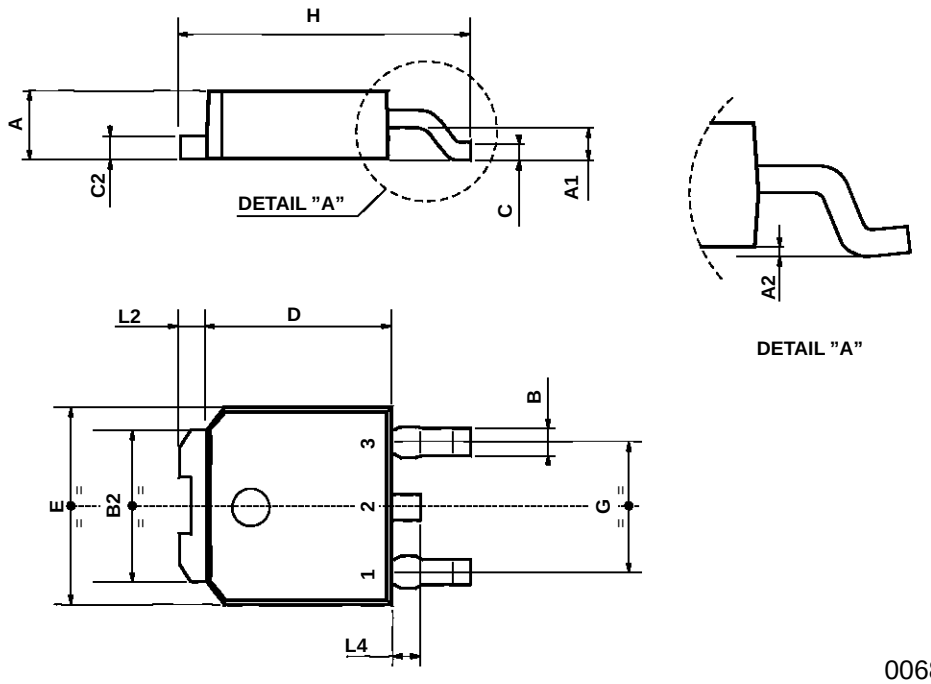


Collector-Emitter Saturation Voltage (PNP type)



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



0068772-B