



**MJD2955**  
**MJD3055**

## COMPLEMENTARY SILICON POWER TRANSISTORS

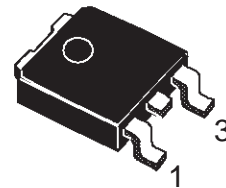
- STM PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICAL SIMILAR TO MJE2955 AND MJE3055

### APPLICATIONS

- GENERAL PURPOSE SWITCHING AND AMPLIFIER TRANSISTORS

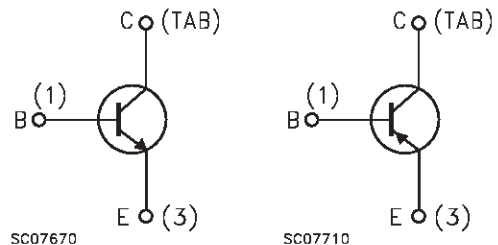
### DESCRIPTION

The MJD2955 and MJD3055 form complementary PNP-NPN pairs. They are manufactured using Epitaxial Base technology for cost-effective performance.



**DPAK**  
**TO-252**  
(Suffix "T4")

### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	MJD3055	
		PNP	MJD2955	
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )		60	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )		70	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )		5	V
$I_C$	Collector Current		10	A
$I_B$	Base Current		6	A
$P_{tot}$	Total Dissipation at $T_c = 25^\circ\text{C}$		20	W

# MJD2955 / MJD3055

## THERMAL DATA

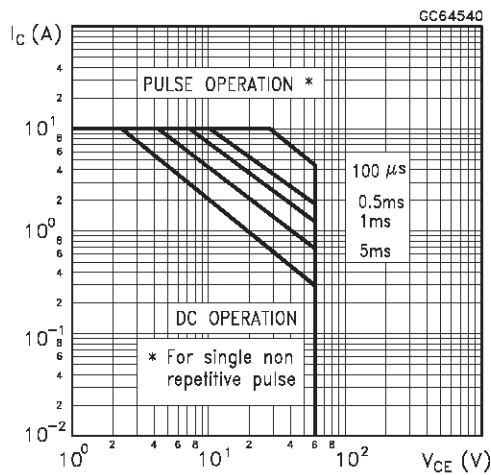
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	6.25	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	100	°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

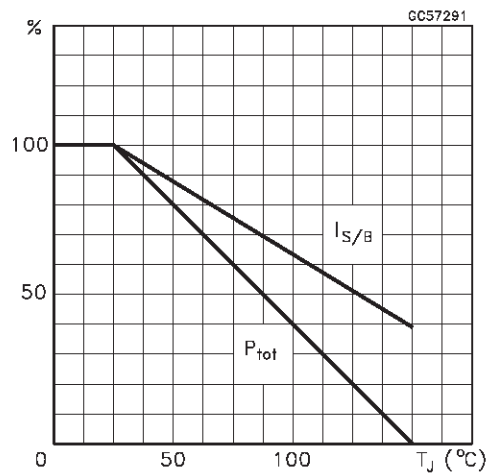
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CEX</sub>	Collector Cut-off Current	V <sub>CB</sub> = 70 V V <sub>BE</sub> = -1.5V V <sub>CB</sub> = 70 V V <sub>BE</sub> = -1.5V T <sub>j</sub> = 150 °C			0.2 2	μA μA
I <sub>CB0</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = 70 V V <sub>CB</sub> = 70 V T <sub>j</sub> = 150 °C			0.2 2	μA μA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CB</sub> = 30 V			50	μA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			0.5	mA
V <sub>CEO(sus)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30 mA	60			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4 A I <sub>B</sub> = 0.4 A I <sub>C</sub> = 10 A I <sub>B</sub> = 3.3 A			1.1 8	V
V <sub>BE(on)*</sub>	Base-Emitter Voltage	I <sub>C</sub> = 4 A V <sub>CE</sub> = 4 V			1.8	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = 4 A V <sub>CE</sub> = 4 V I <sub>C</sub> = 10 A V <sub>CE</sub> = 4 V	20 5		100	
f <sub>T</sub>	DC Current Gain	I <sub>C</sub> = 0.5 A V <sub>CE</sub> = 10 V f = 500 KHz	2			MHz

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %  
For PNP type voltage and current values are negative.

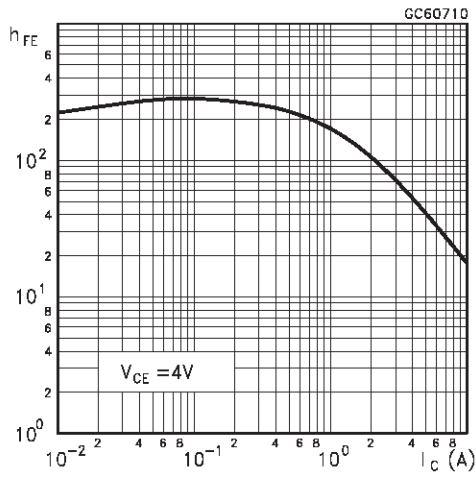
## Safe Operating Area



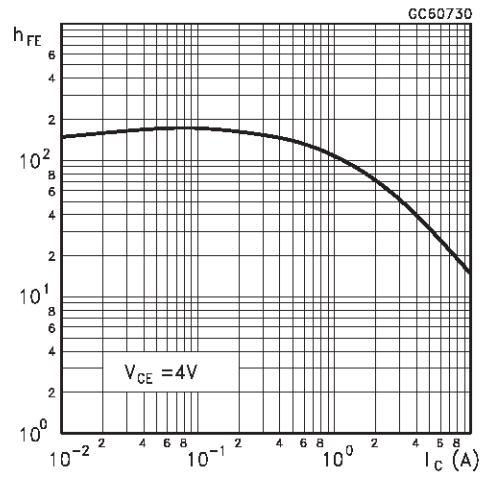
## Derating Curves



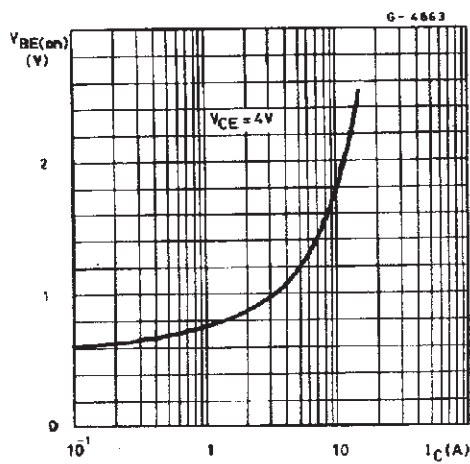
DC Current Gain (NPN type)



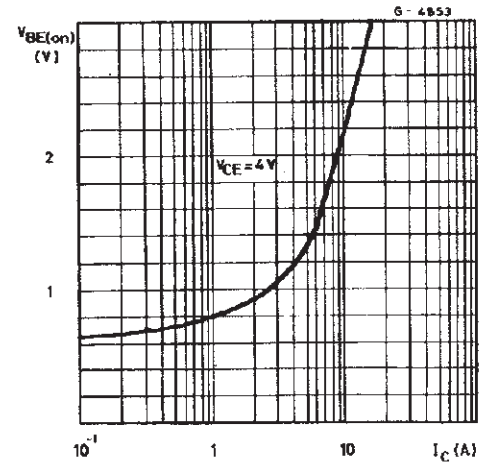
DC Current Gain (PNP type)



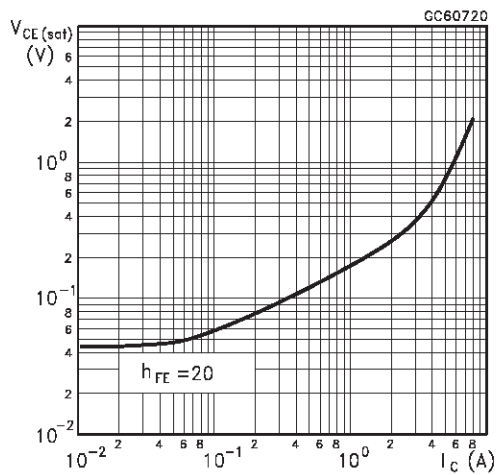
DC Transconductance



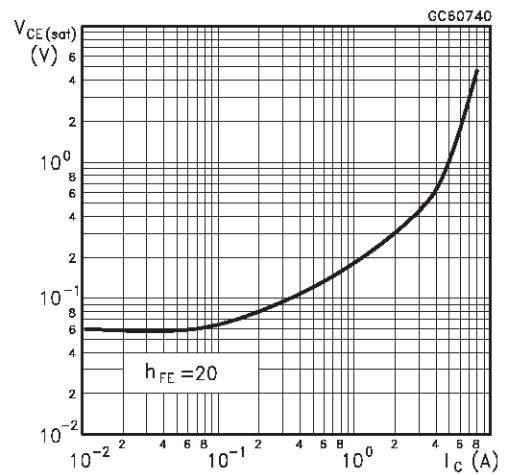
DC Transconductance (PNP type)



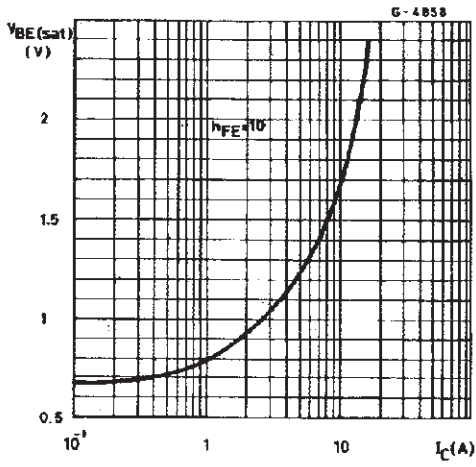
Collector-Emitter Saturation Voltage (NPN type)



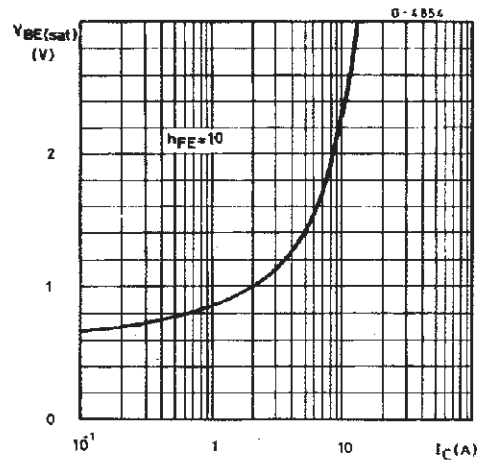
Collector-Emitter Saturation Voltage (PNP type)



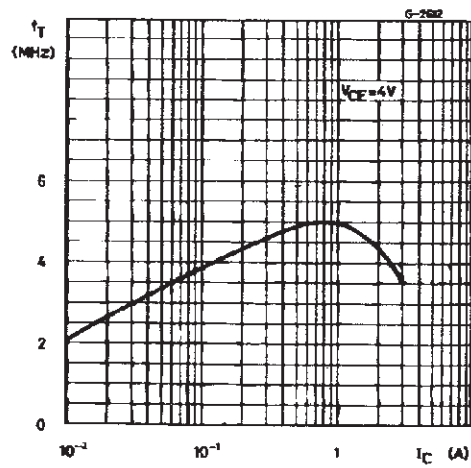
Base-Emitter Saturation Voltage (NPN type)



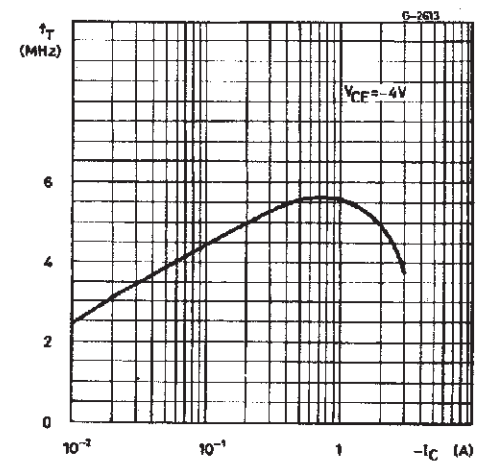
Base-Emitter Saturation Voltage (PNP type)



Transition Frequency (NPN type)

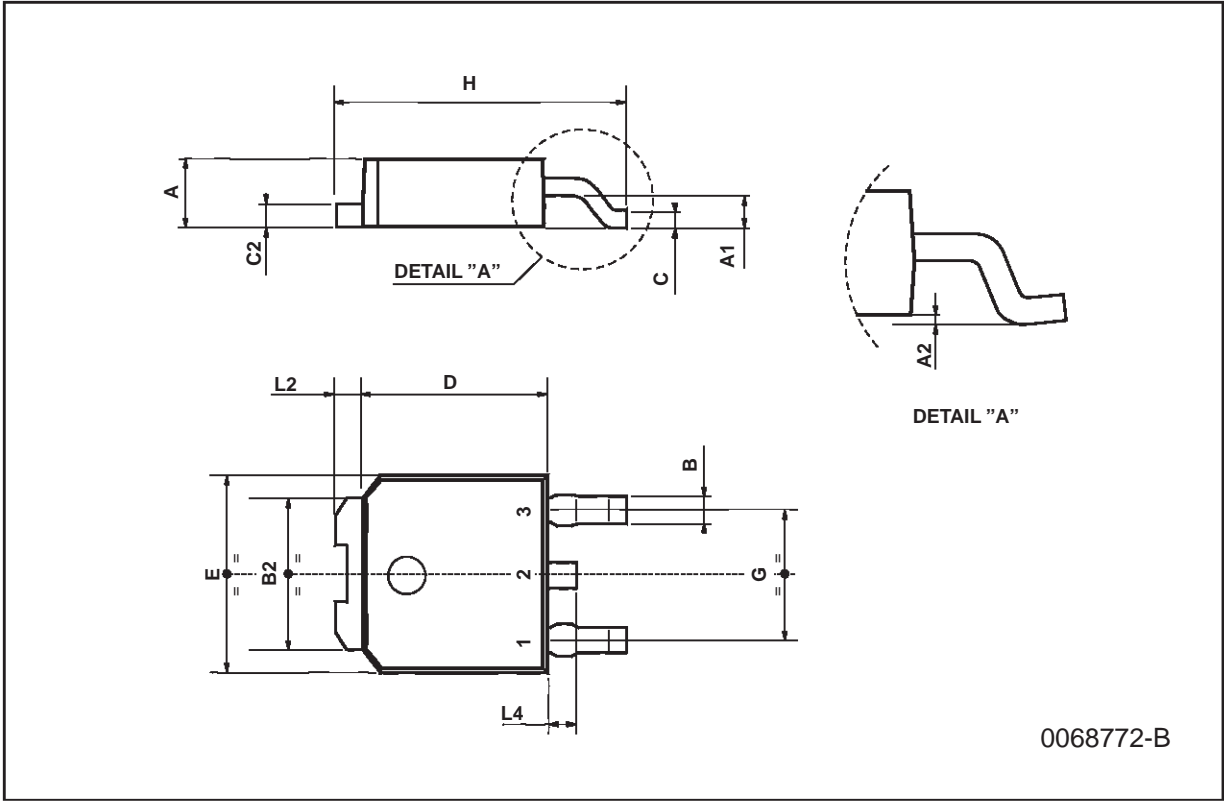


Transition Frequency (PNP type)



**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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