SGS-THOMSON MICROELECTRONICS

MJD2955
MJD3055

COMPLEMENTARY SILICON POWER TRANSISTORS

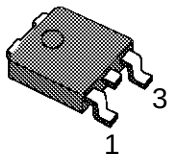
- SGS-THOMSON PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICAL SIMILAR TO MJE2955 AND MJE3055

APPLICATIONS

- GENERAL PURPOSE SWITCHING AND AMPLIFIER TRANSISTORS

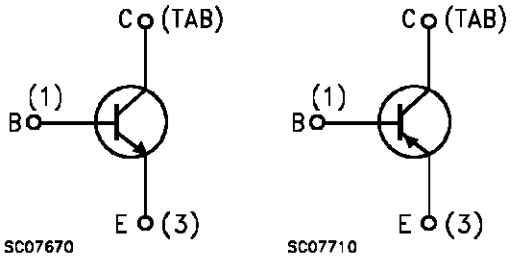
DESCRIPTION

The MJD2955 and MJD3055 form complementary NPN-PNP 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
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 °C	20	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

For PNP type voltage and current values are negative.

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	6.25	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

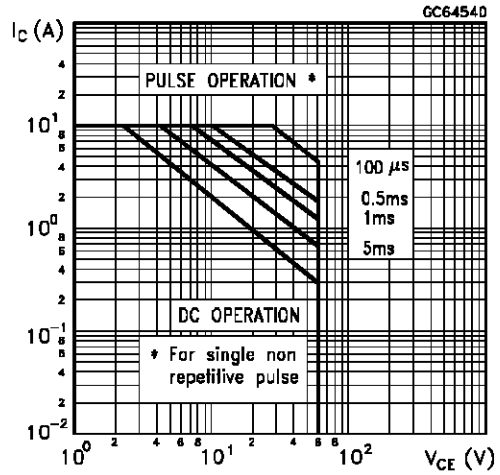
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current ()	V_{CB} = 70 V V_{BE} = -1.5V V_{CB} = 70 V V_{BE} = -1.5V T_j = 150 °C			0.2 2	µA µA
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = 70 V V_{CB} = 70 V T_j = 150 °C			0.2 2	µA µA
I_{CEO}	Collector Cut-off Current (i_B = 0)	V_{CB} = 30 V			50	µA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			0.5	mA
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	I_C = 30 mA	60			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 4 A I_B = 0.4 A I_C = 10 A I_B = 3.3 A			1.1 8	V
$V_{BE(on)}$*	Base-Emitter Voltage	I_C = 4 A V_{CE} = 4 V			1.8	V
h_{FE}*	DC Current Gain	I_C = 4 A V_{CE} = 4 V I_C = 10 A V_{CE} = 4 V	20 5		100	
f_T	DC Current Gain	I_C = 0.5 A V_{CE} = 10 V f = 500 KHz	2			MHz

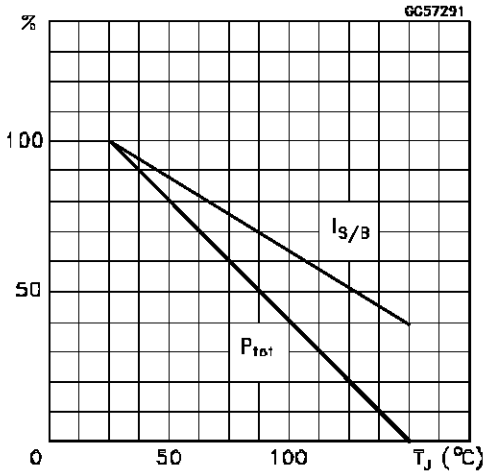
* Pulsed: Pulse duration = 300 µs, duty cycle 1.5 %

For PNP type voltage and current values are negative.

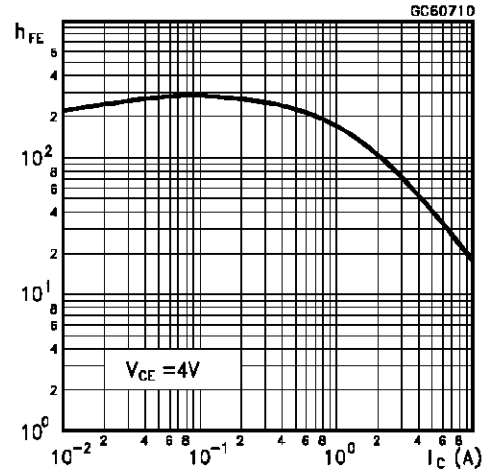
Safe Operating Areas



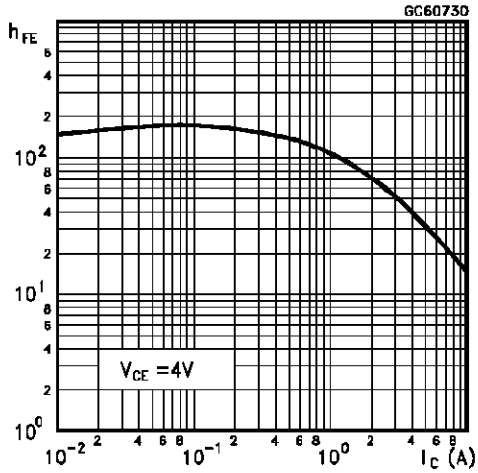
Derating Curve



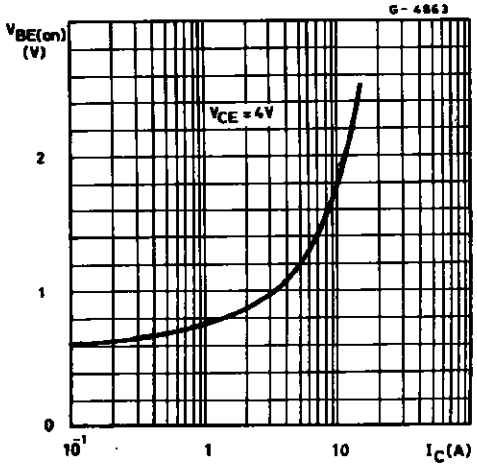
DC Current Gain (NPN type)



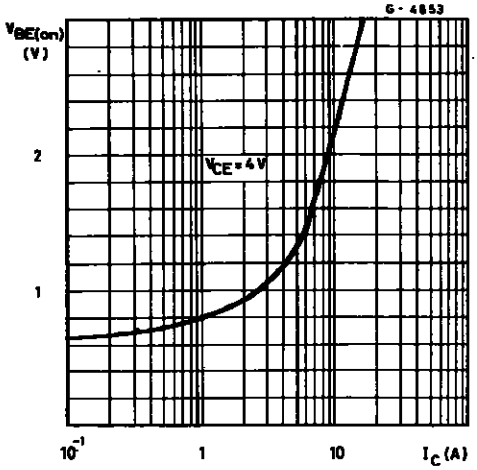
DC Current Gain (PNP type)



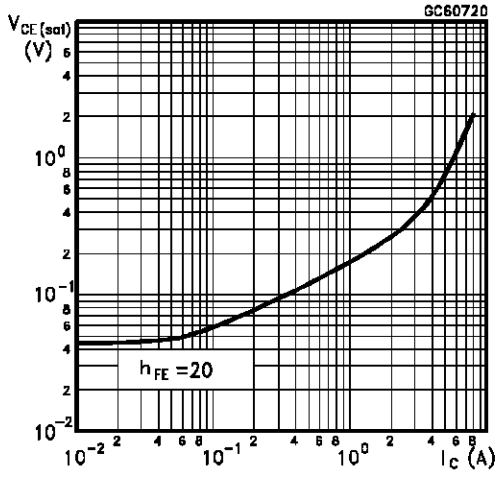
DC Transconductance (NPN type)



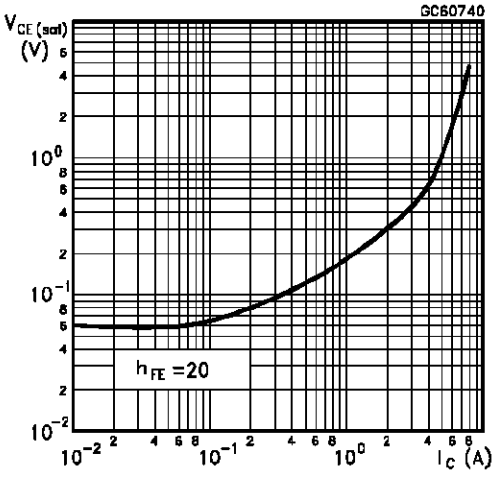
DC Transconductance (PNP type)



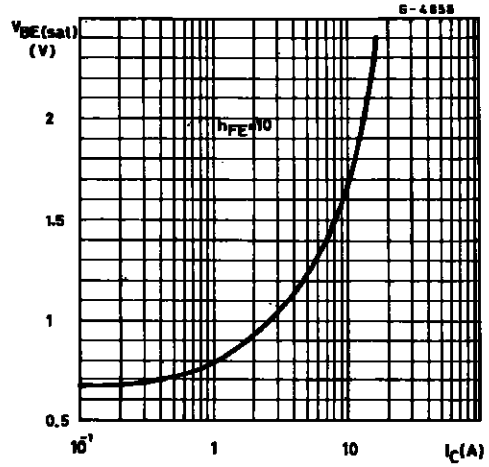
Collector-Emitter Saturation Voltage (NPN type)



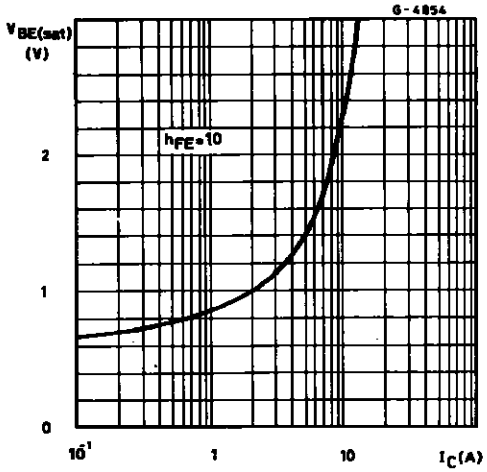
Collector-Emitter Saturation Voltage (PNP type)



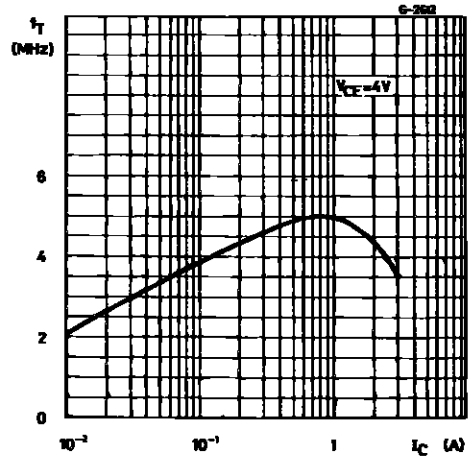
Base-Emitter Saturation Voltage (NPN type)



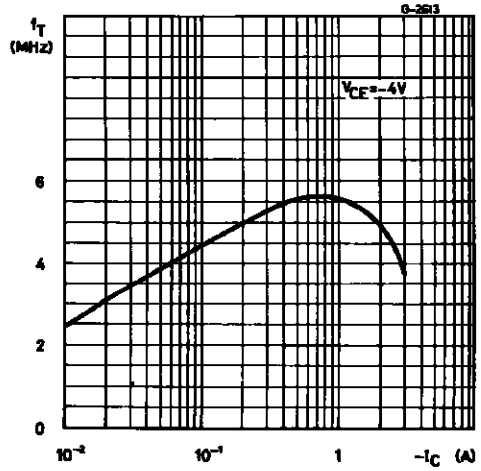
Base-Emitter Saturation Voltage (PNP type)



Transition Frequency (NPN types)

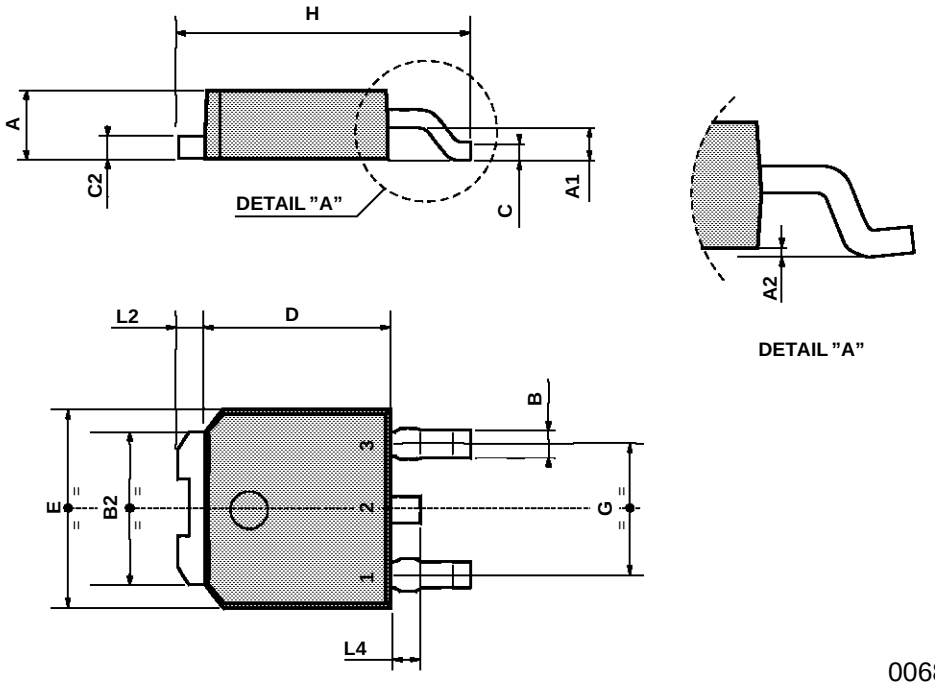


Transition Frequency (PNP types)



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