



MJD2955
MJD3055

COMPLEMENTARY SILICON POWER TRANSISTORS

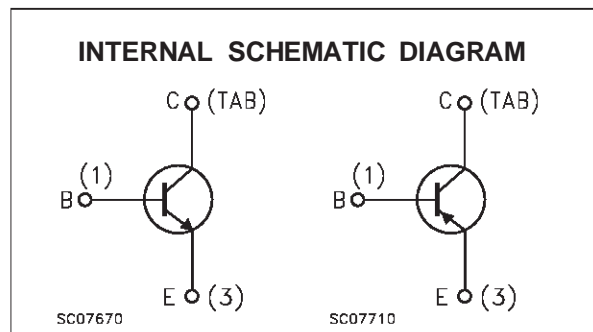
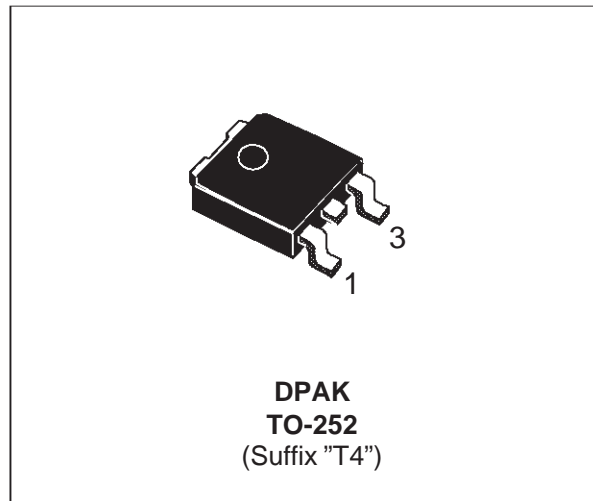
- STM PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK)
POWER PACKAGE IN TAPE & REEL
(SUFFIX "T4")
- ELECTRICAL SIMILAR TO MJE2955 AND
MJE3055

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.



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

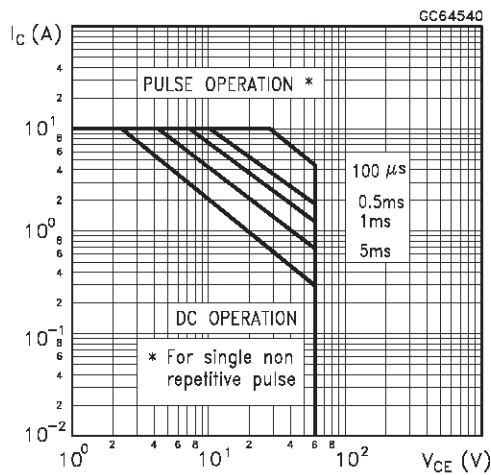
R _{thj-case}	Thermal Resistance Junction-case	Max	6.25	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	100	°C/W

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

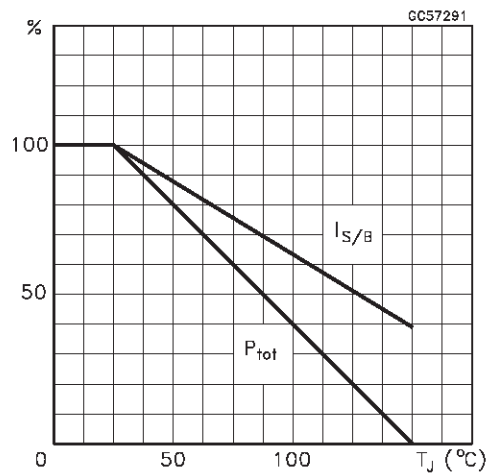
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEX}	Collector Cut-off Current	V _{CB} = 70 V V _{BE} = -1.5V V _{CB} = 70 V V _{BE} = -1.5V T _j = 150 °C			0.2 2	μA μA
I _{CB0}	Collector Cut-off Current (I _E = 0)	V _{CB} = 70 V V _{CB} = 70 V T _j = 150 °C			0.2 2	μA μA
I _{CEO}	Collector 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.

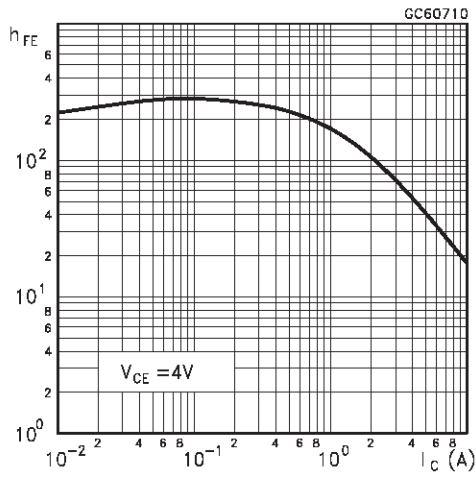
Safe Operating Area



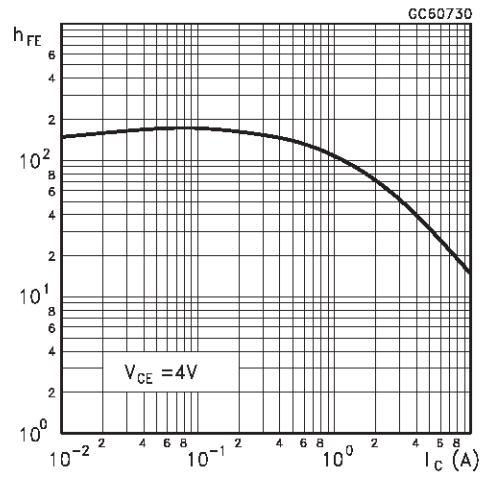
Derating Curves



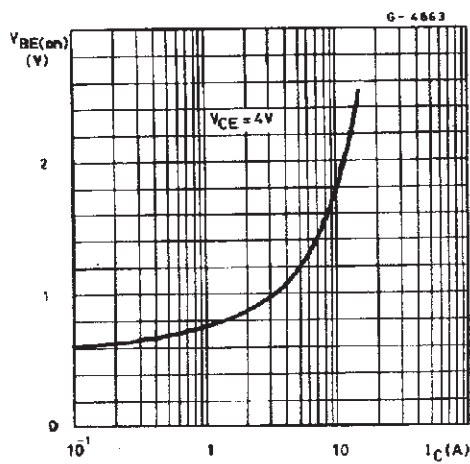
DC Current Gain (NPN type)



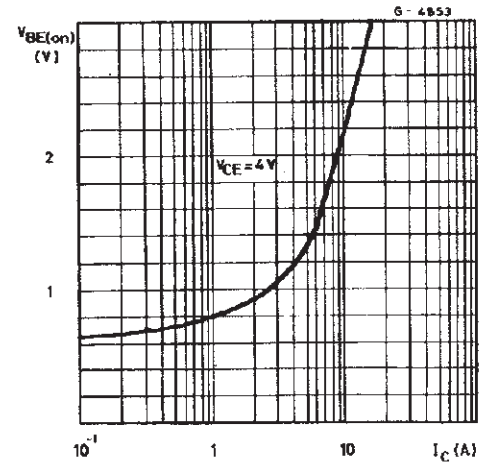
DC Current Gain (PNP type)



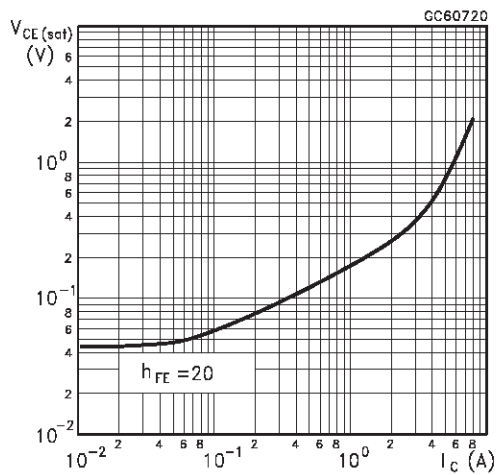
DC Transconductance



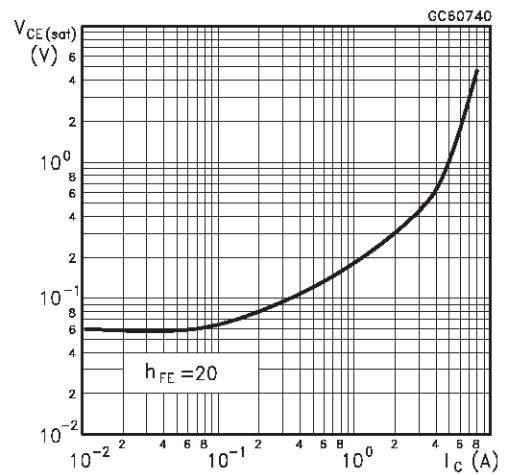
DC Transconductance (PNP type)



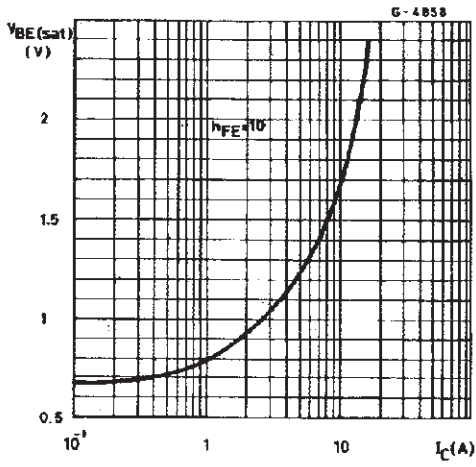
Collector-Emitter Saturation Voltage (NPN type)



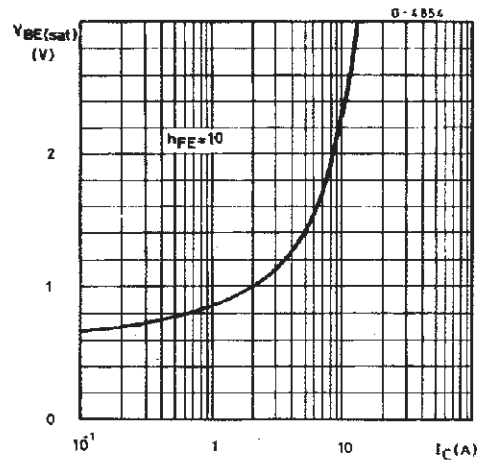
Collector-Emitter Saturation Voltage (PNP type)



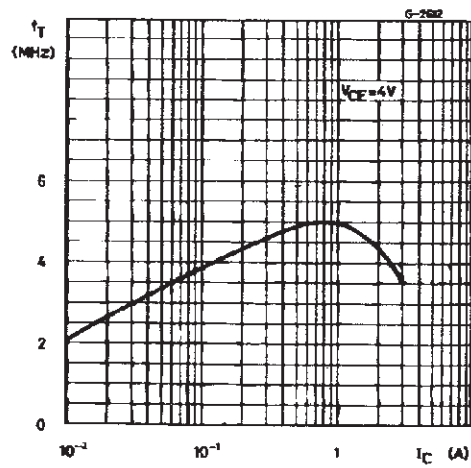
Base-Emitter Saturation Voltage (NPN type)



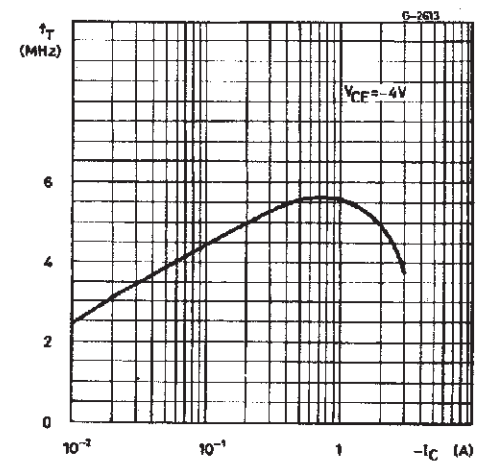
Base-Emitter Saturation Voltage (PNP type)



Transition Frequency (NPN type)

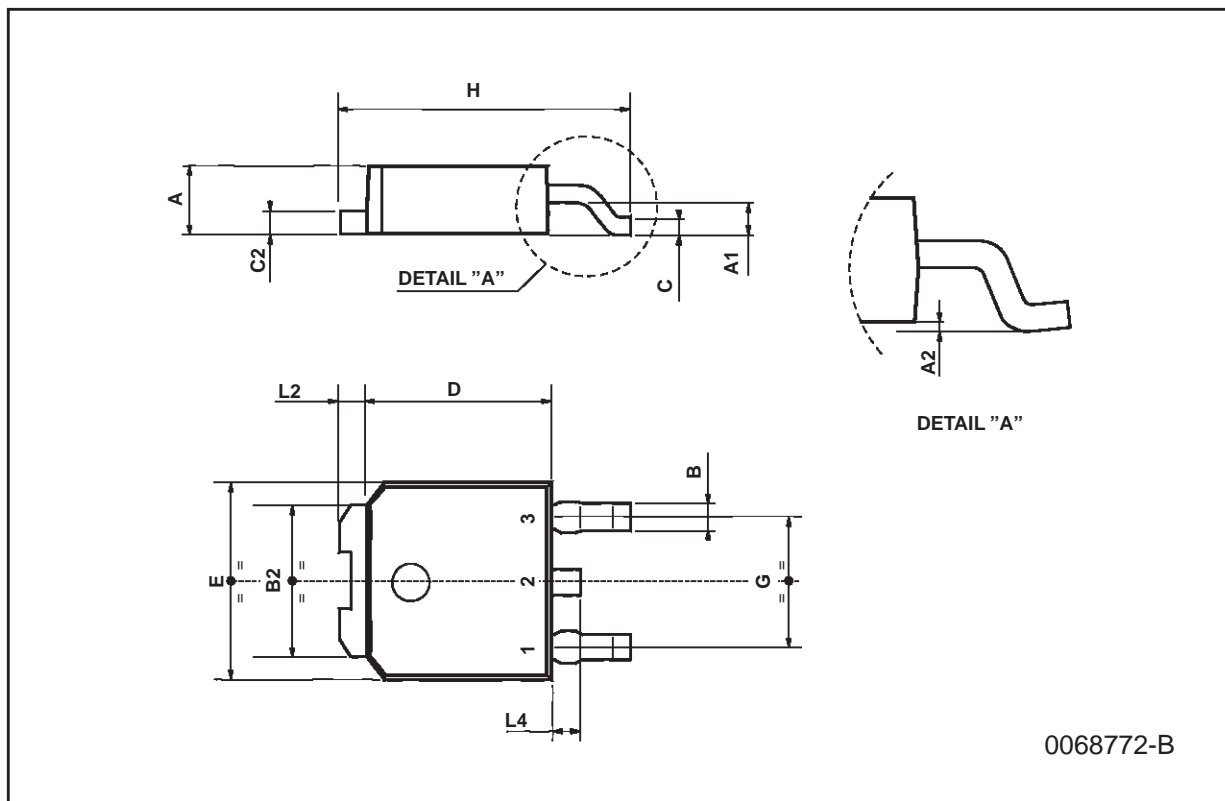


Transition Frequency (PNP type)



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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