

COMPLEMENTARY POWER TRANSISTORS

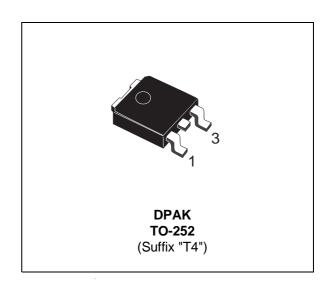
- STMicroelectronics PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICALLY SIMILAR TO MJE2955T AND MJE3055T

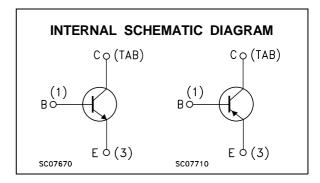
APPLICATIONS

 GENERAL PURPOSE SWITCHING AND AMPLIFIER

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)		70	V
V_{CEO}	Collector-Emitter Voltage (I _B = 0)		60	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)		5	V
Ic	Collector Current		10	Α
Ι _Β	Base Current		6	Α
P _{tot}	Total Dissipation at T _c = 25 °C		20	W
T _{stg}	Storage Temperature		-65 to 150	°C
Tj	Max. Operating Junction Temperature		150	°C

For PNP type voltage and current values are negative.

February 2002 1/6

THERMAL DATA

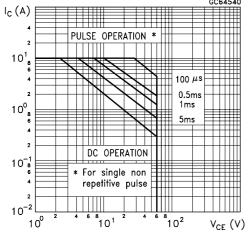
R _{thj-case}	Thermal Resistance Junction-case	Max	6.25	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	100	°C/W

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

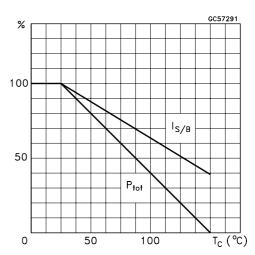
Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
I _{CEX}	Collector Cut-off Current (V _{BE} = -1.5 V)	$V_{CE} = 70 \text{ V}$ $V_{CE} = 70 \text{ V}$ $T_j = 150 \text{ °C}$			20 2	μA mA
I _{CBO}	Collector Cut-off Current (I _E = 0)	$V_{CB} = 70 \text{ V}$ $V_{CB} = 70 \text{ V}$ $T_j = 150 ^{\circ}\text{C}$			20 2	μA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 30 V			50	μΑ
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			0.5	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 30 mA	60			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	$I_C = 4 \text{ A}$ $I_B = 0.4 \text{ A}$ $I_C = 10 \text{ A}$ $I_B = 3.3 \text{ A}$			1.1 8	V V
V _{BE(on)*}	Base-Emitter Voltage	$I_C = 4 A$ $V_{CE} = 4 V$			1.8	V
h _{FE} *	DC Current Gain	$I_{C} = 4 \text{ A}$ $V_{CE} = 4 \text{ V}$ $I_{C} = 10 \text{ A}$ $V_{CE} = 4 \text{ V}$	20 5		100	
f⊤	Transition Frequency	Ic = 0.5 A V _{CE} = 10 V f = 500 KHz	2			MHz

^{*} Pulsed: Pulse duration = 300 μ s, duty cycle 1.5 %

Safe Operating Area

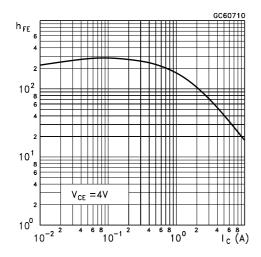


Derating Curves

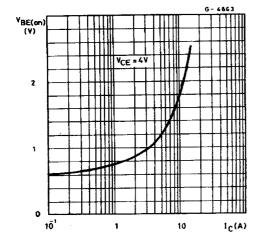


For PNP type voltage and current values are negative.

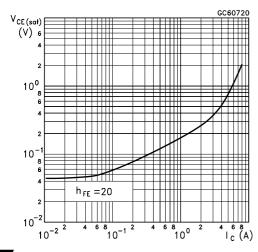
DC Current Gain (NPN type)



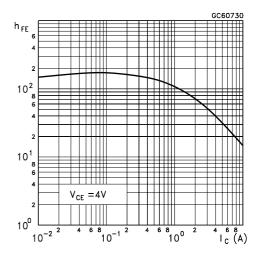
DC Transconductance (NPN type)



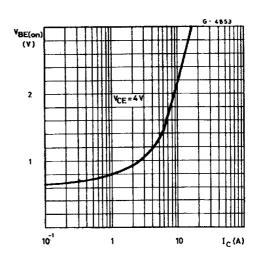
Collector-Emitter Saturation Voltage (NPN type)



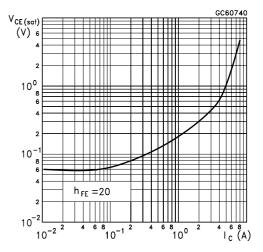
DC Current Gain (PNP type)



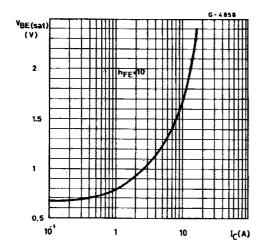
DC Transconductance (PNP type)



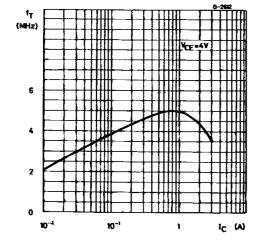
Collector-Emitter Saturation Voltage (PNP type)



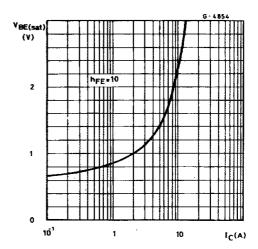
Base-Emitter Saturation Voltage (NPN type)



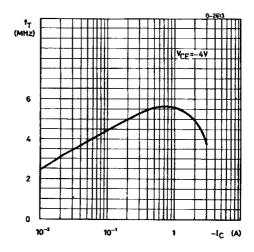
Transition Frequency (NPN type)



Base-Emitter Saturation Voltage (PNP type)

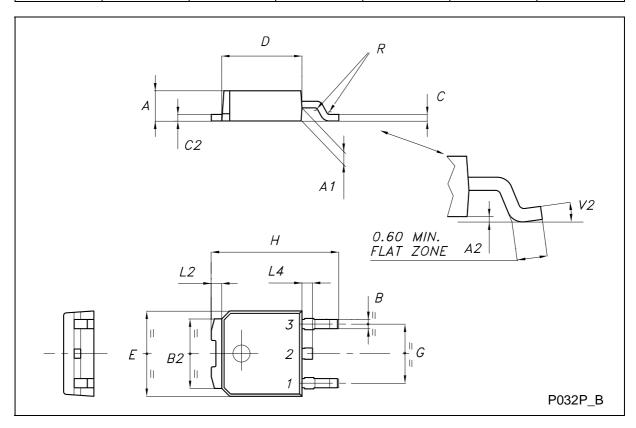


Transition Frequency (PNP type)



TO-252 (DPAK) MECHANICAL DATA

DIM.	mm		inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
А	2.20		2.40	0.087		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
В	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.213
С	0.45		0.60	0.018		0.024
C2	0.48		0.60	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.252		0.260
G	4.40		4.60	0.173		0.181
Н	9.35		10.10	0.368		0.398
L2		0.8			0.031	
L4	0.60		1.00	0.024		0.039
V2	0°		8°	0°		0°



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