

COMPLEMENTARY POWER TRANSISTORS

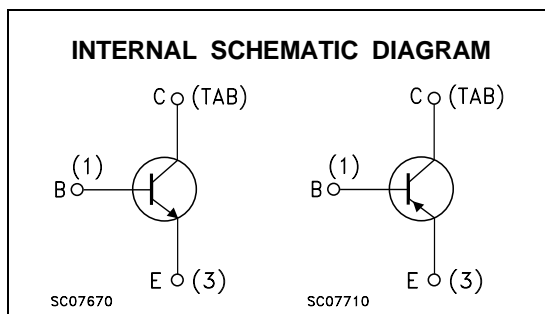
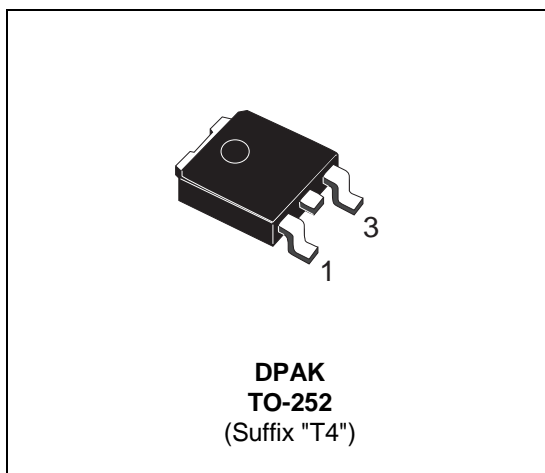
- STMicroelectronics PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICALLY SIMILAR TO MJE2955T AND MJE3055T

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
I_C	Collector Current		10	A
I_B	Base Current		6	A
P_{tot}	Total Dissipation at $T_c = 25\text{ }^\circ\text{C}$		20	W
T_{stg}	Storage Temperature		-65 to 150	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature		150	$^\circ\text{C}$

For PNP type voltage and current values are negative.

MJD2955 / MJD3055

THERMAL DATA

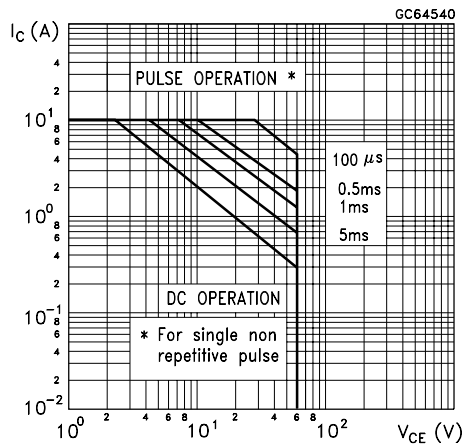
$R_{thj-case}$	Thermal Resistance Junction-case	Max	6.25	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	100	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

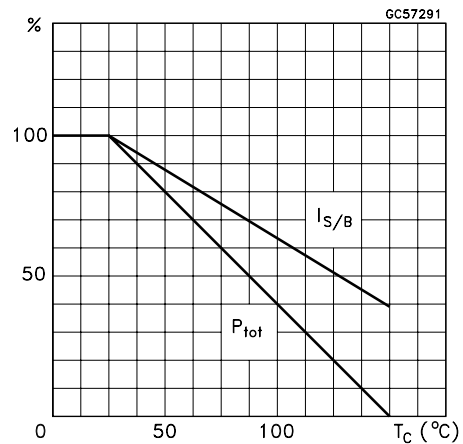
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current ($V_{BE} = -1.5 V$)	$V_{CE} = 70 V$ $V_{CE} = 70 V$ $T_j = 150^{\circ}C$			20 2	μA mA
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = 70 V$ $V_{CB} = 70 V$ $T_j = 150^{\circ}C$			20 2	μA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 30 V$			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 ($I_B = 0$)	$I_C = 30 mA$	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
$V_{BE(on)*}$	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	Transition Frequency	$I_C = 0.5 A$ $V_{CE} = 10 V$ $f = 500 KHz$	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



TO-252 (DPAK) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	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
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.213
C	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
H	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°

