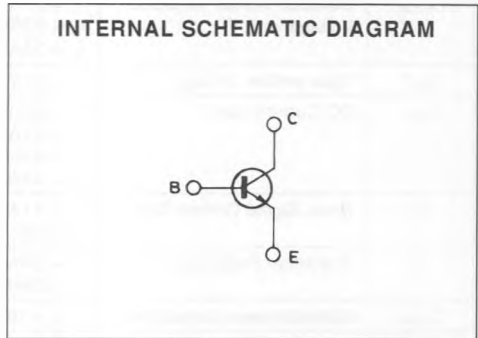
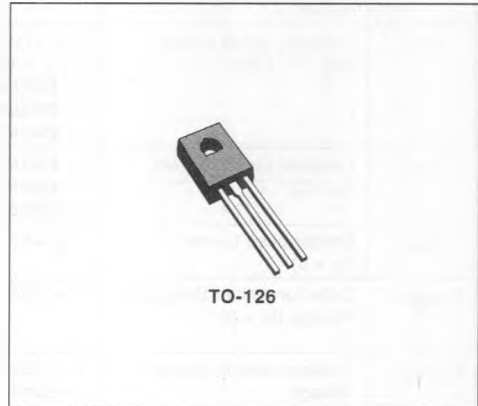


## HIGH VOLTAGE POWER TRANSISTORS

### DESCRIPTION

The 2N5655, 2N5656 and 2N5657 are silicon epitaxial planar NPN transistors in Jedec TO-126 plastic package. They are intended for use audio output amplifiers, low current, high voltage converters and AC line relays.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	2N5655	2N5656	2N5657	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	275	325	375	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	250	300	350	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	6			V
$I_C$	Collector Current	0.5			A
$I_{CM}$	Collector Peak Current	1			A
$I_B$	Base Current	0.25			A
$P_{tot}$	Total Power Dissipation at $T_{case} \leq 25^\circ C$	20			W
$T_{stg}$	Storage Temperature	- 65 to 150			$^\circ C$
$T_j$	Junction Temperature	150			$^\circ C$

**THERMAL DATA**

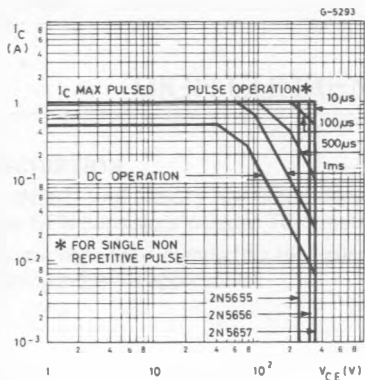
$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	6.25	$^{\circ}C/W$
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**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise specified)

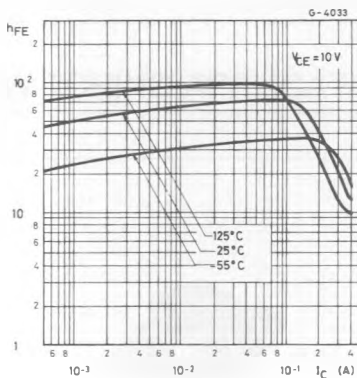
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	$V_{CB} = \text{rated } V_{CBO}$			10	$\mu A$
$I_{CEV}$	Collector Cutoff Current ( $V_{BE} = -1.5V$ )	$V_{CE} = \text{rated } V_{CEO}$ $T_{case} = 100^{\circ}C$ for <b>2N5655</b> $V_{CE} = 150V$ for <b>2N5656</b> $V_{CE} = 200V$ for <b>2N5657</b> $V_{CE} = 250V$			0.1 1 1 1	$mA$ $mA$ $mA$ $mA$
$I_{CEO}$	Collector Cutoff Current ( $I_B = 0$ )	for <b>2N5655</b> $V_{CE} = 150V$ for <b>2N5656</b> $V_{CE} = 200V$ for <b>2N5657</b> $V_{CE} = 250V$			0.1 0.1 0.1	$mA$ $mA$ $mA$
$I_{EBO}$	Emitter-base Current ( $I_C = 0$ )	$V_{EB} = 6V$			10	$\mu A$
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 1mA$ for <b>2N5655</b> for <b>2N5656</b> for <b>2N5657</b>	250 300 350			$V$ $V$ $V$
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 100mA$ for <b>2N5655</b> $L = 50mH$ for <b>2N5656</b> for <b>2N5657</b>	250 300 350			$V$ $V$ $V$
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 0.1A$ $I_B = 10mA$ $I_C = 0.25A$ $I_B = 25mA$ $I_C = 0.5A$ $I_B = 0.1A$			1 2.5 10	$V$ $V$ $V$
$V_{BE}^*$	Base-emitter Voltage	$I_C = 0.1V$ $V_{CE} = 10V$			1	$V$
$h_{FE}^*$	DC Current Gain	$I_C = 50mA$ $V_{CE} = 10V$ $I_C = 0.1A$ $V_{CE} = 10V$ $I_C = 0.25A$ $V_{CE} = 10V$ $I_C = 0.5A$ $V_{CE} = 10V$	25 30 15 5		250	
$h_{fe}$	Small Signal Current Gain	$I_C = 0.1A$ $V_{CE} = 10V$ $f = 1KHz$	20			
$f_T$	Transition Frequency	$I_C = 50mA$ $V_{CE} = 10V$ $f = 10MHz$	10			$MHz$
$C_{CBO}$	Collector-base Capacitance	$V_{CB} = 10V$ $f = 100KHz$			25	$pF$

\* Pulsed : pulse duration = 300 $\mu s$ , duty cycle  $\leq 1.5\%$ .

Safe Operating Areas.



DC Current Gain.



Collector-emitter Saturation Voltage.

