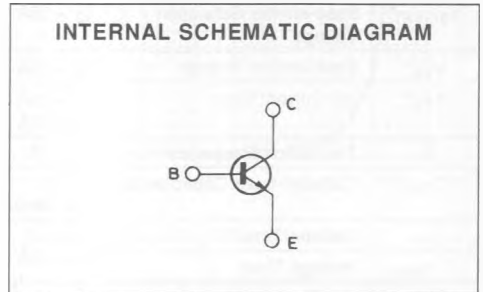
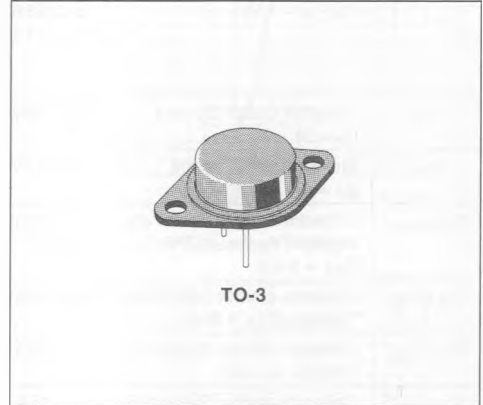


HIGH CURRENT FAST SWITCHING APPLICATIONS

DESCRIPTION

The 2N5671 and 2N5672 are silicon multiepitaxial planar NPN transistors in Jedec TO-3 metal case.

They are especially intended for high current, fast switching industrial applications.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	2N5671	2N5672	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	120	150	V
V_{CEX}	Collector-emitter Voltage ($V_{BE} = -1.5V, R_{BE} = 50\Omega$)	120	150	V
V_{CER}	Collector-emitter Voltage ($R_{BE} \leq 50\Omega$)	110	140	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	90	120	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	7		V
I_C	Collector Current	30		A
I_B	Base Current	10		A
P_{Tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	140		W
T_{stg}	Storage Temperature	- 65 to 200		$^\circ C$
T_j	Junction Temperature	200		$^\circ C$

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	1.25	°C/W
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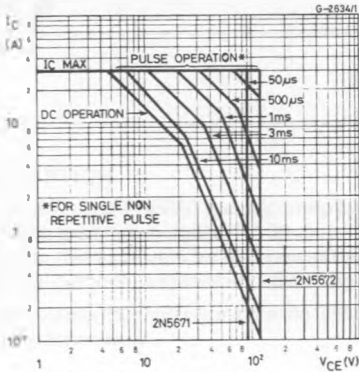
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cutoff Current ($V_{BE} = -1.5V$)	for 2N5671 for 2N5672 $V_{CE} = 100V$	$V_{CE} = 110V$ $V_{CE} = 135V$ $T_{case} = 150^{\circ}C$ for 2N5671 for 2N5672			12 10 15 10	mA mA mA mA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = 80V$				10	mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 7V$				10	mA
$V_{CEX(sus)}^*$	Collector-emitter Sustaining Voltage ($V_{BE} = -1.5V$ $R_{BE} = 50\Omega$)	$I_C = 200mA$	for 2N5671 for 2N5672	120 150			V V
$V_{CER(sus)}^*$	Collector-emitter Sustaining Voltage ($R_{BE} = 50\Omega$)	$I_C = 200mA$	for 2N5671 for 2N5672	110 140			V V
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 200mA$	for 2N5671 for 2N5672	90 120			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 15A$	$I_B = 1.2A$			0.75	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 15A$	$I_B = 1.2A$			1.5	V
V_{BE}^*	Base-emitter Voltage	$I_C = 15A$	$V_{CE} = 5V$			1.6	V
h_{FE}^*	DC Current Gain	$I_C = 15A$ $I_C = 20A$	$V_{CE} = 2V$ $V_{CE} = 5V$	20 20		100	
f_T	Transistion Frequency	$I_C = 2A$	$V_{CE} = 10V$	50			MHz
C_{CBO}	Collector-base Capacitance	$I_E = 0$ $f = 1MHz$	$V_{CB} = 10V$			900	pF
t_{on}	Turn-on Time	$I_C = 15A$ $V_{CC} = 30A$ $I_{B1} = -I_{B2} = 1.2A$				0.5	μs
t_s	Storage Time					1.5	μs
t_f	Fall Time					0.5	μs
$I_{s/b}^{**}$	Second Breakdown Collector Current	$V_{CE} = 24V$ $V_{CE} = 45V$		5.8 0.9			A A
$E_{s/b}$	Second Breakdown Energy	$V_{BE} = -4V$ $L = 180\mu H$	$R_{BE} = 20\Omega$	20			mJ

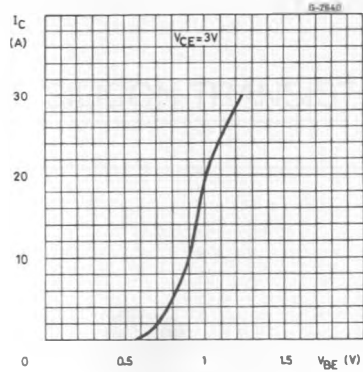
* Pulsed : pulse duration = 300 μs , duty cycle = 1.5 %.

** Pulsed : 1 s, non repetitive pulse.

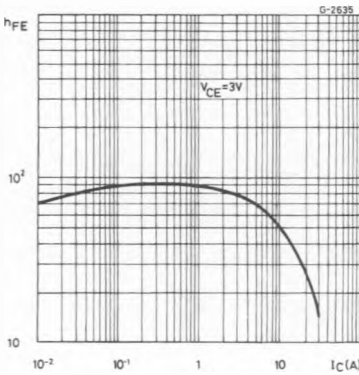
Safe Operating Areas.



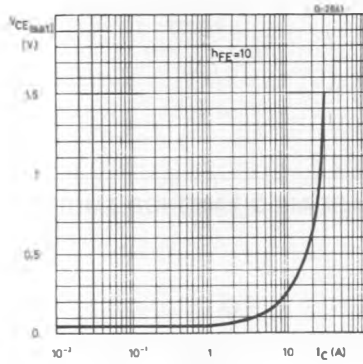
DC Transconductance.



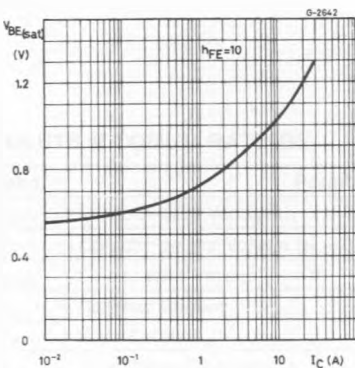
DC Current Gain.



Collector-emitter Saturation Voltage.



Base-emitter Saturation Voltage.



Saturated Switching Characteristics.

