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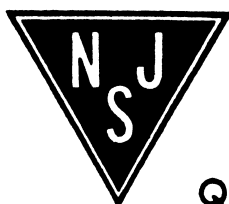


THERMAL DATA

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

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CEV} Collector cutoff current ($V_{BE} = -1.5 V$)	for 2N5671 $V_{CE} = 110 V$ for 2N5672 $V_{CE} = 135 V$ $V_{CE} = 100V$ $T_{case} = 150^{\circ}C$ for 2N5671 for 2N5672		12 10		mA mA
I_{CEO} Collector cutoff current ($I_B = 0$)	$V_{CE} = 80 V$		10		mA
I_{EBO} Emitter cutoff current ($I_C = 0$)	$V_{EB} = 7 V$		10		mA
$V_{CEX(sus)}$ * Collector-emitter sustaining voltage ($V_{BE} = -1.5V$, $R_{BE} = 50\Omega$)	$I_C = 200 mA$ 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	$I_C = 15 A$ $I_B = 1.2 A$		0.75		V
$V_{BE(sat)}$ * Base-emitter saturation voltage	$I_C = 15 A$ $I_B = 1.2 A$		1.5		V
V_{BE} * Base-emitter voltage	$I_C = 15 A$ $V_{CE} = 5 V$		1.6		V
h_{FE} * DC current gain	$I_C = 15 A$ $V_{CE} = 2 V$ $I_C = 20 A$ $V_{CE} = 5 V$	20 20	100		— —
f_T Transition frequency	$I_C = 2 A$ $V_{CE} = 10 V$	50			MHz



Quality Semi-Conductors

2N5671, 2N5672

ELECTRICAL CHARACTERISTICS, Case Temperature (T_C) = 25°C Unless Otherwise Specified

CHARACTERISTIC	SYMBOL	TEST CONDITIONS						LIMITS				UNITS
		DC Voltage (V)			DC Current (A)		Type 2N5671		Type 2N5672			
		V _{CB}	V _{CE}	V _{BE}	I _C	I _B	Min.	Max.	Min.	Max.		
Collector-Cutoff Current	I _{CEO}	-	80	-	-	0	-	10	-	10	mA	
	I _{CEV}	-	110	-1.5	-	-	-	12	-	-	mA	
	I _{CEV}	-	135	-1.5	-	-	-	-	-	10	mA	
	I _{CEV}	-	100	-1.5	-	-	-	15	-	10	mA	
(T _C =150° C)												
Emitter-Cutoff Current	I _{EBO}	-	-	-7	0	-	-	10	-	10	mA	
Collector-to-Emitter Sustaining Voltage: With base open	V _{CEQ(sus)}	-	-	-	0.2	0	90°	-	120°	-	V	
With external base-to-emitter resistance (R _{BE}) ≤ 50 Ω	V _{CER(sus)}	-	-	-	0.2	0	110°	-	140°	-	V	
With base-emitter junction reverse biased & R _{BE} ≤ 50 Ω	V _{CEx(sus)}	-	-	-1.5	0.2	-	120°	-	150°	-	V	
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	-	-	-	15	1.2	-	1.5	-	1.5	V	
Base-to-Emitter Voltage	V _{BE}	-	5	-	15	-	-	1.6	-	1.6	V	
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	-	-	-	15	1.2	-	0.75	-	0.75	V	
DC Forward-Current Transfer Ratio	h _{FE}	-	2	-	15	-	20	100	20	100		
		-	5	-	20	-	20	-	20	-		
Second-Breakdown Collector Current ^c With base forward biased	I _{S/B} ^b	-	24	-	-	-	5.8°	-	5.8°	-	A	
		-	45	-	-	-	0.9°	-	0.9°	-	A	
Second-Breakdown Energy With base reverse biased R _{BE} = 20 Ω, L = 180 μH	E _{S/B} ^d	-	-	-4	15	-	20	-	20	-	mJ	
Gain-Bandwidth Product	f _T	-	10	-	2	-	50	-	50	-	MHz	
Output Capacitance (At 1 MHz, I _E = 0)	C _{ob}	10	-	-	-	-	-	900	-	900	pF	
Saturated Switching Turn-On Time (Delay Time + Rise Time)	t _{on}	V _{CC} = 30 V	-	-	15	I _{B1} = 1.2 I _{B2} = 1.2	-	0.5	-	0.5	μs	
Saturated Switching Storage Time	t _s	V _{CC} = 30 V	-	-	15	I _{B1} = 1.2 I _{B2} = 1.2	-	1.5	-	1.5	μs	
Saturated Switching Fall Time	t _f	V _{CC} = 30 V	-	-	15	I _{B1} = 1.2 I _{B2} = 1.2	-	0.5	-	0.5	μs	
Thermal Resistance (Junction-to-Case)	θ _{J-C}	-	40	-	0.5	-	-	1.25	-	1.25	°C/W	

^aPulsed; pulse duration ≤ 350 μs, duty factor = 0.02.

^bCAUTION: The sustaining voltages $V_{CEQ(sus)}$ and $V_{CEX(sus)}$ MUST NOT be measured on a curve tracer.

These sustaining voltages should be measured by means of the test circuit shown in Fig. 5.

^c $I_{S/B}$ is defined as the current at which second breakdown occurs at a specified collector voltage with the emitter-base junction forward-biased for transistor operation in the active region.

^dPulsed; 1-s, non-repetitive pulse.

^e $E_{S/B}$ is defined as the energy at which second breakdown occurs under specified reverse-bias conditions. $E_{S/B} = 1/2 I_{S/B}^2$

where L is a series load or leakage inductance and I is the peak collector current.

^fIn accordance with JEDEC registration data format JS-6 RDP-1.

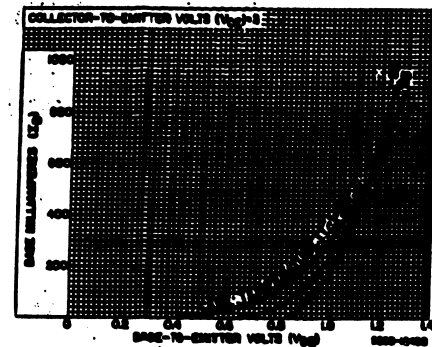


Fig. 5 - Typical input characteristics for types 2N5671 and 2N5672.

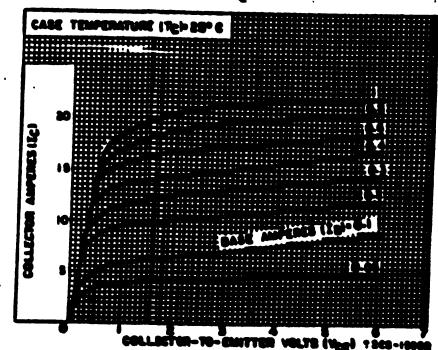


Fig. 6 - Typical output characteristics for types 2N5671 and 2N5672.

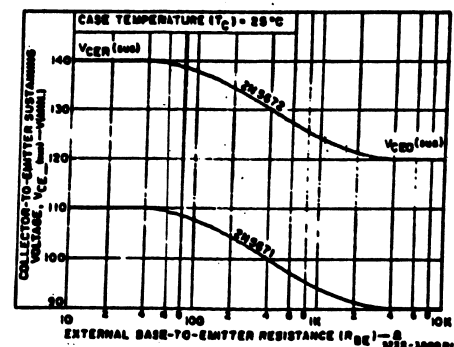


Fig. 7 - Collector-to-emitter sustaining voltage characteristics for types 2N5671 and 2N5672.

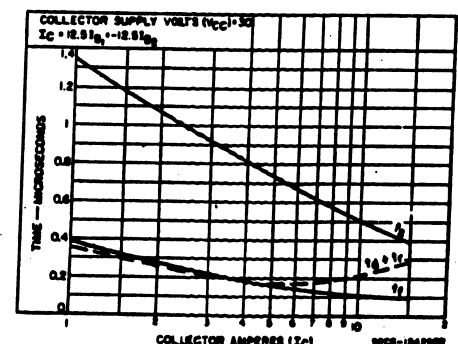


Fig. 8 - Typical saturated switching characteristics for types 2N5671 and 2N5672.

