



NPN 2N5671 – 2N5672

HIGH CURRENT FAST SWITCHING APPLICATIONS

The 2N5671 and 2N5672 are silicon multiepitaxial planer NPN transistors in Jedec TO-3. They are especially intended for high current, fast switching industrial applications. Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CEO}	Collector-Emitter Voltage		2N5671	90	V
			2N5672	120	
V_{CBO}	Collector-Base Voltage		2N5671	120	V
			2N5672	150	
V_{EBO}	Emitter-Base Voltage		2N5671	7.0	V
			2N5672		
V_{CEX}	Collector-Emitter Voltage	$V_{EB} = -1.5V$ $R_{EB} = 50 \Omega$	2N5671	120	V
			2N5672	150	
V_{CER}	Collector-Emitter Voltage	$R_{EB} \leq 50 \Omega$	2N5671	110	V
			2N5672	140	
I_C	Collector Current		2N5671	30	A
			2N5672		
I_B	Base Current		2N5671	10	A
			2N5672		
P_D	Total Device Dissipation @ $TC = 25^\circ$		2N5671	140	W
			2N5672		
T_J	Junction Temperature		2N5671	200	$^\circ C$
			2N5672		
T_{Stg}	Storage Temperature		2N5671	-65 to +200	$^\circ C$
			2N5672		

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C=200\text{ mA}, I_B=0$	2N5671	90	--	--	V
			2N5672	120	--	--	
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C=0.2\text{ A}, R_{BE}=50\Omega$	2N5671	110	--	--	V
			2N5672	140	--	--	
$V_{CEX(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C=0.2\text{ A}, V_{BE}=-1.5\text{ V}$ $R_{BE}=50\Omega$	2N5671	120	--	--	V
			2N5672	150	--	--	
I_{CEO}	Collector Cutoff Current	$V_{CE}=80\text{ V}$	2N5671	-	-	10	mA
			2N5672	-	-	10	
I_{CEX}	Collector Cutoff Current	$V_{CE}=110\text{ V}, V_{EB}=-1.5\text{ V}$ $V_{CE}=135\text{ V}, V_{EB}=-1.5\text{ V}$ $V_{CE}=100\text{ V}, V_{EB}=-1.5\text{ V}$ $T_C=150^\circ\text{C}$	2N5671	-	-	12	mA
			2N5672	-	-	10	
			2N5671	-	-	15	
			2N5672	-	-	10	
I_{EBO}	Emitter Cutoff Current	$V_{BE}=7.0\text{ V}, I_C=0$	2N5671	-	-	10	mA
			2N5672	-	-	10	
h_{FE}	DC Current Gain (*)	$I_C=15\text{ A}, V_{CE}=2.0\text{ V}$	2N5671	20	-	100	-
			2N5672	20	-	-	
		$I_C=20\text{ A}, V_{CE}=5.0\text{ V}$	2N5671	20	-	-	
			2N5672	20	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=15\text{ A}, I_B=1.2\text{ A}$	2N5671	-	-	0.75	V
			2N5672	-	-	0.75	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C=15\text{ A}, I_B=1.2\text{ A}$	2N5671	-	-	1.5	V
			2N5672	-	-	1.5	
V_{BE}	Base-Emitter Voltage (*)	$I_C=15\text{ A}, V_{CE}=5.0\text{ V}$	2N5671	-	-	1.6	V
			2N5672	-	-	1.6	
f_T	Transition frequency	$V_{CE}=10\text{ V}, I_C=2\text{ A}$	2N5671	50	-	-	MHz
			2N5672	50	-	-	
$I_{s/b}$	Second Breakdown energy (**)	$V_{CE}=24\text{ V}$	2N5671	5.8	-	-	A
		$V_{CE}=45\text{ V}$	2N5672	0.9	-	-	
$E_{s/b}$	Second Breakdown energy	$V_{BE}=-4\text{ V}, R_{BE}=20\Omega$ $L=180\mu\text{H}$	2N5671	20	-	-	mJ
			2N5672	20	-	-	
C_{BO}	Collector-Base Capacitance	$I_E=0, V_{CB}=10\text{ V}$ $f=1\text{ MHz}$	2N5671	-	-	900	pF
			2N5672	-	-	900	



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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
t_{on} t_{s} t_{f}	Turn-on time Storage time File time	$I_C=15\text{ A}$, $V_{CC}=30\text{ V}$ $I^{B1} = -I_{B2} = 1.2\text{ A}$	2N5671	-	-	0.5	μs
			2N5672	-	-	0.5	
			2N5671	-	-	1.5	
			2N5672	-	-	1.5	
			2N5671	-	-	0.5	

(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle = 1.5%

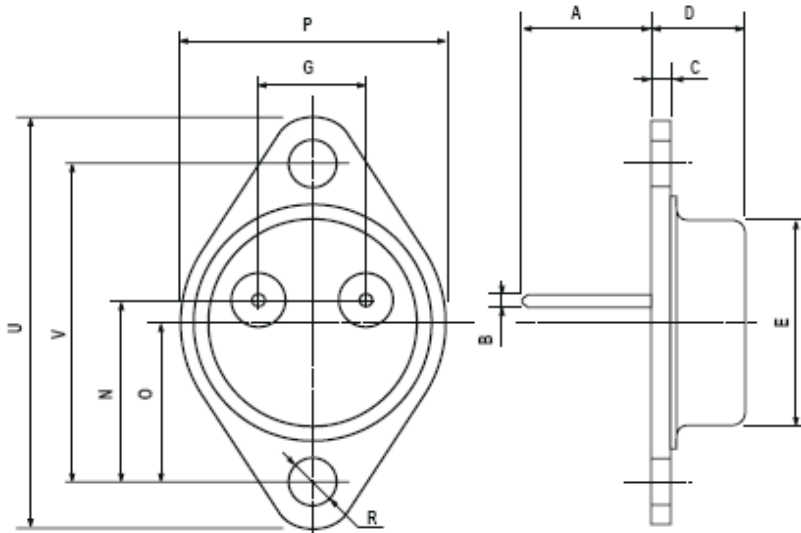
(**) Pulsed : 1 s, non repetitive pulse



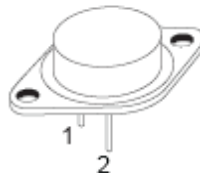
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MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)			
	min	typ	max
A	11	-	13.10
B	0.97	-	1.15
C	1.5	-	1.65
D	8.32	-	8.92
E	19	-	22
G	10.70	-	11.1
N	16.50	-	17.20
P	25	-	27,20
R	3.84	-	4.21
U	38.50	-	40.13
V	29.90	-	30.40



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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