SGS-THOMSON MICROELECTRONICS

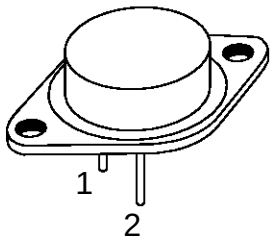
2N3771
2N3772

HIGH POWER NPN SILICON TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPES

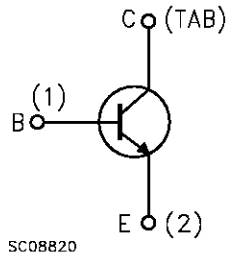
DESCRIPTION

The 2N3771, 2N3772 are silicon epitaxial-base NPN transistors mounted in Jedec Jedec TO-3 metal case. They are intended for linear amplifiers and inductive switching applications.



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		2N3771	2N3772	
V_{CEO}	Collector-Base Voltage (I_E = 0)	40	60	V
V_{CEV}	Collector-Emitter Voltage (R_{BE} = 100Ω)	50	80	V
V_{CBO}	Collector-Emitter Voltage (I_B = 0)	50	100	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	5	7	V
I_C	Collector Current	30	30	A
I_{CM}	Collector Peak Current	30	30	A
I_B	Base Current	7.5	5	A
I_{BM}	Base Peak Current	15	15	A
P_{tot}	Total Dissipation at T_c 25 °C	150		W
T_{stg}	Storage Temperature	-65 to 200		°C
T_j	Max. Operating Junction Temperature	200		°C

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.17	°C/W

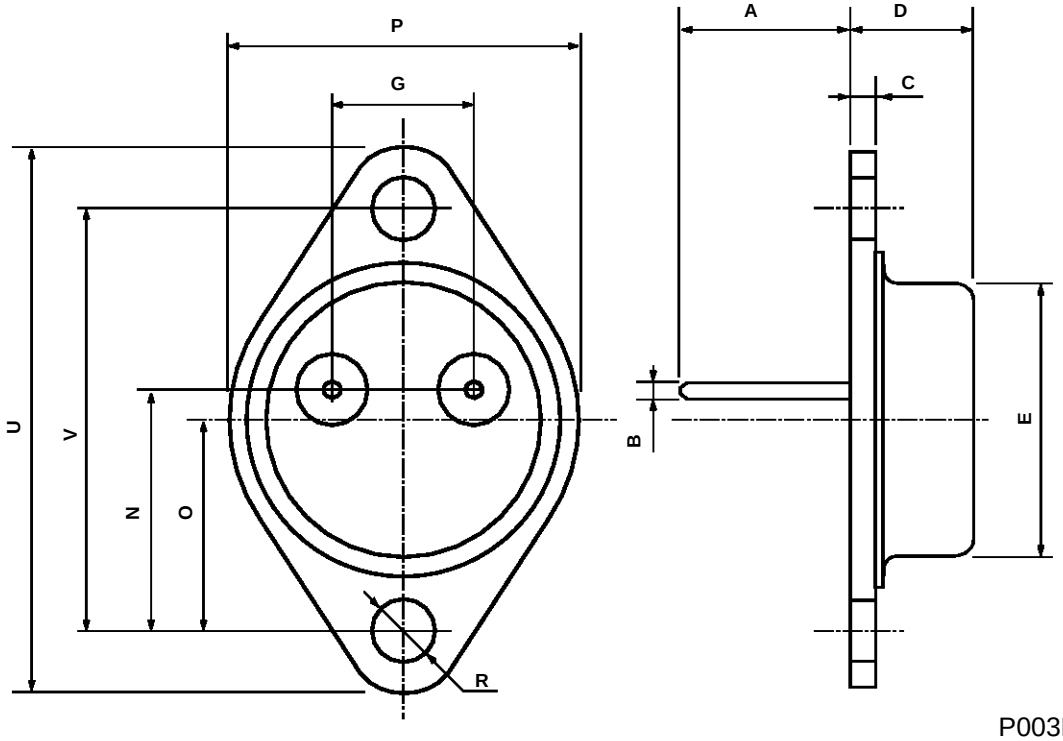
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current (V_{BE} = -1.5V)	for **2N3771** V_{CB} = 50 V for **2N3772** V_{CB} = 100 V for ALL V_{CB} = 30 V T_j = 150 °C			2 5 10	mA mA mA
I_{CEO}	Collector Cut-off Current (I_B = 0)	for **2N3771** V_{CB} = 30 V for **2N3772** V_{CB} = 50 V			10 10	mA mA
I_{CBO}	Collector Cut-off Current (I_E = 0)	for **2N3771** V_{CB} = 50 V for **2N3772** V_{CB} = 100 V			4 5	mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	for **2N3771** V_{CB} = 5 V for **2N3772** V_{CB} = 7 V			5 5	mA mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 0.2 A for **2N3771** for **2N3772**	 40 60		 	 V V
$V_{CEV(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 0.2 A R_{BE} = 100 Ω V_{EB} = -1.5V for **2N3771** for **2N3772**	 50 80		 	 V V
$V_{CER(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 0.2 A R_{BE} = 100 Ω for **2N3771** for **2N3772**	 45 70		 	 V V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	for **2N3771** I_C = 15 A I_B = 1.5 A I_C = 30 A I_B = 6 A for **2N3772** I_C = 10 A I_B = 1 A I_C = 20 A I_B = 4 A			 2 4 1.4 4	 V V V V
V_{BE}*	Base-Emitter Voltage	for **2N3771** I_C = 15 A V_{CE} = 4 V for **2N3772** I_C = 10 A V_{CE} = 4 A			 2.7 2.7	 V V
h_{FE}*	DC Current Gain	for **2N3771** I_C = 15 A V_{CE} = 4 V I_C = 30 A V_{CE} = 4 V for **2N3772** I_C = 10 A V_{CE} = 4 V I_C = 20 A V_{CE} = 4 V	 15 5 15 5		 60 60	
h_{FE}	Small Signal Current Gain	I_C = 1 A V_{CE} = 4 V f = 1KHz	40			
f_T	Transition frequency	I_C = 1 A V_{CE} = 4 V f = 50KHz	0.2			MHz
$I_{s/b}$*	Second Breakdown Collector Current	V_{CE} = 25 V t = 1 s (non repetitive)	6			A

* Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	



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