NPN 2N6253 – 2N6254 – 2N6371

HIGH POWER SILICON NPN TRANSISTORS

The 2N6253, 2N6254, and 2N6371 are silicon transistors are mounted in TO-3 metal package.
Tey are intended for a wide variety of high-power applications. The construction of these devices renders them highly resistant to second breakdown over a wide range of operating conditions.
These devices differ in maximum ratings for voltage and power dissipation.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
$V_{CEO(SUS)}$	Collector-Emitter Voltage		2N6253	45	V
			2N6254	80	
			2N6371	40	
V_{CBO}	Collector-Base Voltage (*)		2N6253	55	V
			2N6254	100	
			2N6371	50	
$V_{CER(SUS)}$	Collector-Emitter Voltage R_{BE}=100Ω		2N6253	55	V
			2N6254	85	
			2N6371	45	
$V_{CEV(SUS)}$	Collector-Emitter Voltage V_{BE}=-1.5V		2N6253	55	V
			2N6254	90	
			2N6371	50	
V_{EBO}	Emitter-Base Voltage		2N6253	5	V
			2N6254	7	
			2N6371	5	
I_C	Collector Current			15	A
I_B	Base Current			7	A
P_{TOT}	Power Dissipation	< 25°C	2N6253	115	Watts
			2N6254	150	
			2N6371	117	
		> 25°C		Derate Linearly to 200°C	
T_J	Junction Temperature			-65 to +200	°C
T_S	Storage Temperature				

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THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	2N6253	1.5	°C/W
		2N6254	1.17	
		2N6371	1.5	

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
$V_{CE(SAT)}$	Collector-Emitter Voltage (*)	I_C=3 A, I_B=0.3 A	2N6253	-	-	1	V
		I_C=15 A, I_B=5 A		-	-	4	
		I_C=5 A, I_B=0.5 A	2N6254	-	-	0.5	
		I_C=15 A, I_B=3 A		-	-	4	
		I_C=8 A, I_B=0.8 A	2N6371	-	-	1.5	
		I_C=16 A, I_B=4 A		-	-	4	
I_{CEO}	Collector-Emitter Cutoff Current	V_{CE}=25 V	2N6253 2N6371	-	-	1.5	mA
		V_{CE}=60 V	2N6254	-	-	1.0	
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}=-5 V	2N6253 2N6371	-	-	10	mA
		V_{EB}=-7 V	2N6254			0.5	
I_{CEX}	Collector Cutoff Current	V_{CE}=40 V V_{BE}=-1.5 V	2N6371	-	-	10	mA
		V_{CE}=50 V V_{BE}=-1.5 V	2N6253	-	-	10	
		V_{CE}=100 V V_{BE}=1.5 V	2N6254	-	-	5.0	
		V_{CE}=45 V V_{BE}=-1.5 V	2N6371	-	-	2.0	
		V_{CE}=55 V V_{BE}=-1.5 V	2N6253	-	-	2.0	
		V_{CE}=100 V V_{BE}=1.5 V	2N6254	-	-	0.5	

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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=0.2 A, I_B=0 A	2N6253	45	-	-	V
			2N6254	80	-	-	
			2N6371	40	-	-	
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage (*) R_{BE}=100Ω	I_C=0.2 mA	2N6253	55	-	-	V
			2N6254	85	-	-	
			2N6371	45	-	-	
$V_{CEV(SUS)}$	Base-Emitter Voltage (*)	I_C=0.1 A V_{BE}=-1.5 V	2N6253	55	-	-	V
			2N6254	90	-	-	
			2N6371	50	-	-	
V_{BE}	Base-Emitter Voltage (*)	V_{CE}=4 V, I_C=3 A	2N6253	-	-	1.7	V
		V_{CE}=2 V, I_C=5 A	2N6254	-	-	1.5	
		V_{CE}=4 V, I_C=16 A	2N6371	-	-	4	
h_{FE}	Static Forward Current transfer ratio (*)	V_{CE}=4 V, I_C=3 A	2N6253	20	-	70	-
		V_{CE}=4 V, I_C=15 A		3	-	-	
		V_{CE}=2 V, I_C=5 A	2N6254	20	-	70	
		V_{CE}=4 V, I_C=15 A		5	-	-	
		V_{CE}=4 V, I_C=8 A	2N6371	15	-	60	
		V_{CE}=4 V, I_C=16 A		4	-	-	
h_{fe}	Small Signal Current Gain	V_{CE}=4 V, I_C=1 A f=1 kHz	2N6253 2N6254 2N6371	10	-	-	-
f_T	Transition Frequency	V_{CE}=4 V, I_C=1 A	2N6253	-	-	-	kHz
			2N6254	-	-	-	
			2N6371	800	-	-	
$I_{s/b}$	Second Breakdown Collector Current tp=1s, non rep.	V_{CE}=45 V	2N6253	2.55	-	-	A
			2N6254	1.87	-	-	
		V_{CE}=40 V	2N6371	2.9	-	-	

(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2.0%

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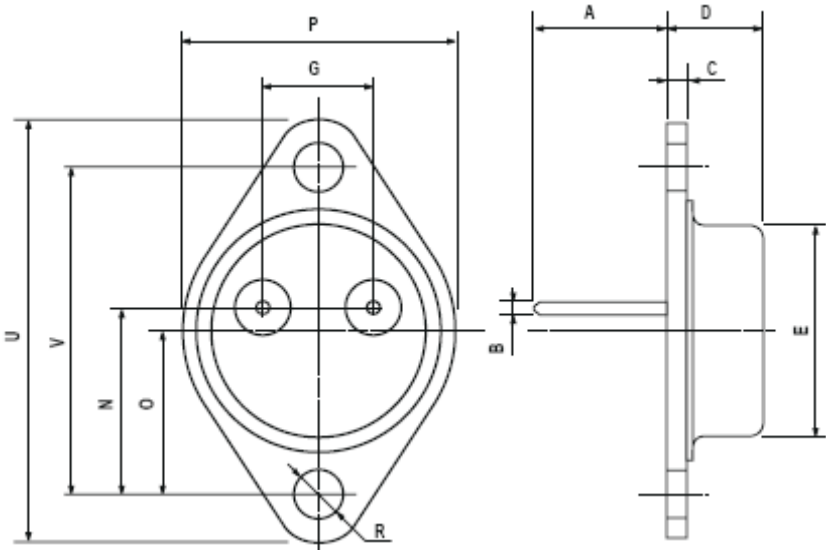
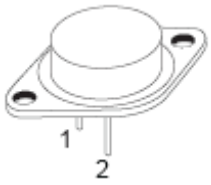
MECHANICAL DATA CASE TO-3

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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