PNP 2N4398 – 2N4399 – 2N5745

SILICON POWER TRANSISTORS

They are PNP transistors mounted in Jedec TO-3 package.
They are intended for use in power amplifier and switching circuits applications.
Complement to NPN 2N5301 – 2N5302 – 2N5303.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	2N4398	-40	V
		2N4399	-60	
		2N5745	-80	
V_{CBO}	Collector-Base Voltage	2N4398	-40	V
		2N4399	-60	
		2N5745	-80	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current	2N4398	-30	A
		2N4399		
		2N5745	-20	
I_{CM}	Collector Peak Current		50	A
I_B	Base Current		-7.5	A
I_{BM}	Base Peak Current		15	A
P_{TOT}	Power Dissipation	@ T_C = 25°	200	W
T_J	Junction Temperature		200	℃
T_S	Storage Temperature		-65 to +200	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	0.875	℃/W
R_{thJ-A}	Thermal Resistance, Junction to Ambient	35	℃/W

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ELECTRICAL CHARACTERISTICS

TC=25℃ unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	MAx	Unit
$V_{CEO(BR)}$	Collector-Emitter Breakdown Voltage (*)	I_C= -200 mA I_B= 0	2N4398	-40	-	-	V
			2N4399	-60	-	-	
			2N5745	-80	-	-	
I_{CBO}	Collector Cutoff Current	V_{CB} = -40 V, I_E = 0	2N4398	-	-	-1	mA
		V_{CB} = -60 V, I_E = 0	2N4399				
		V_{CB} = -80 V, I_E = 0	2N5745				
I_{CEO}	Collector Cutoff Current	V_{CE}= -40 V, I_B = 0	2N4398	-	-	-5	mA
		V_{CE}= -60 V, I_B = 0	2N4399				
		V_{CE}= -80 V, I_B = 0	2N5745				
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5 V, I_C = 0	2N4398	-	-	-5	mA
			2N4399				
			2N5745				
I_{CEX}	Collector Cutoff Current	V_{CE}= -40 V, V_{BE}= 1.5 V	2N4398	-	-	-5	mA
		V_{CE}= -40 V, V_{BE}= 1.5 V	2N4399				
		V_{CE}= -40 V, V_{BE}= 1.5 V	2N5745				
		V_{CE}= -40 V, V_{BE}= 1.5 V T_C = 150℃	2N4398	-	-	-10	
		V_{CE}= -40 V, V_{BE}= 1.5 V T_C = 150℃	2N4399				
		V_{CE}= -40 V, V_{BE}= 1.5 V T_C = 150℃	2N5745				
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= -10 A, I_B= -1 A	2N4398	-	-	-0.75	V
			2N4399				
			2N5745	-	-	-1	
		I_C= -15 A, I_B= -1.5 A	2N4398	-	-	-1	
			2N4399				
			2N5745	-	-	-1.5	
		I_C= -20 A, I_B= -2 A	2N4398	-	-	-2	
			2N4399				
		I_C= -20 A, I_B= -4 A	2N5745				
		I_C= -30 A, I_B= -6 A	2N4398	-	-	-4	
			2N4399				
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	I_C= -10 A, I_B= -1 A	2N4398	-	-	-1.6	V
			2N4399				
			2N5745	-	-	-1.7	
		I_C= -15 A, I_B= -1.5 A	2N4398	-	-	-1.85	
			2N4399				
			2N5745	-	-	-2	
		I_C= -20 A, I_B= -2 A	2N4398	-	-	-2.5	
			2N4399				
		I_C= -20 A, I_B= -4 A	2N5745				

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ELECTRICAL CHARACTERISTICS

TC=25℃ unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	MAx	Unit
$V_{BE(on)}$	Base-Emitter on Voltage (*)	I_C= -15 A, V_{CE}= -2 V	2N4398	-	-	-1.7	V
			2N4399				
		I_C= -10 A, V_{CE}= -2 V	2N5745	-	-	-1.5	
		I_C= -30 A, V_{CE}= -4 V	2N4398	-	-	-3	
			2N4399				
		I_C= -20 A, V_{CE}= -4 V	2N5745	-	-	-2.5	
h_{FE}	DC Current Gain (*)	I_C= -1 A, V_{CE}= -2 V	2N4398	40	-	-	-
			2N4399	-	-	-	
			2N5745	-	-	-	
		I_C= -15 A, V_{CE}= -2 V	2N4398	15	-	60	
			2N4399				
		I_C= -10 A, V_{CE}= -2 V	2N5745				
		I_C= -30 A, V_{CE}= -2 V	2N4398	5	-	-	
			2N4399				
		I_C= -20 A, V_{CE}= -4 V	2N5745				
f_T	Transition Frequency	V_{CE}= -10 V, I_C= -1 A f= 1 MHz	2N4398	4	-	-	MHz
			2N4399				
			2N5745	2	-	-	

(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2 %

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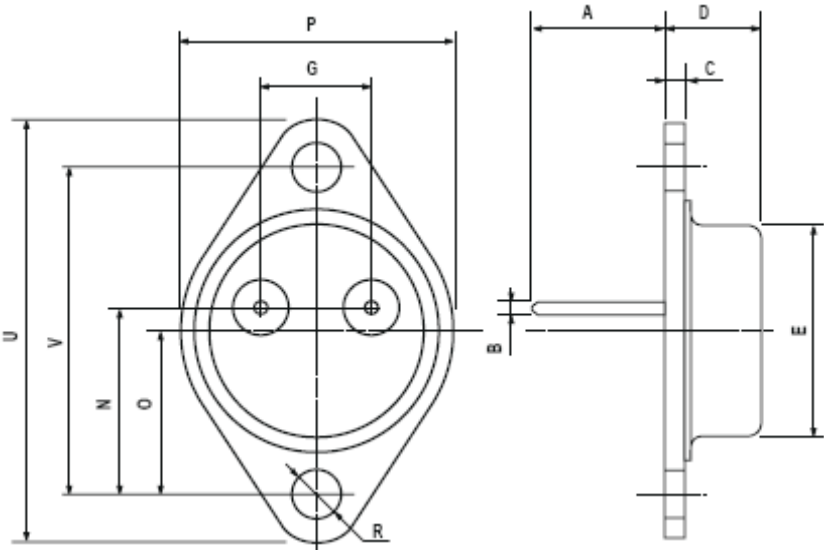
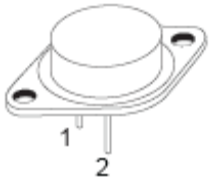
MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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