



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	°C	
T _S	Storage Temperature	-65 to +200		

THERMAL CHARACTERISTICS

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



PNP 2N4398 – 2N4399 – 2N5745

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

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



PNP 2N4398 – 2N4399 – 2N5745

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

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

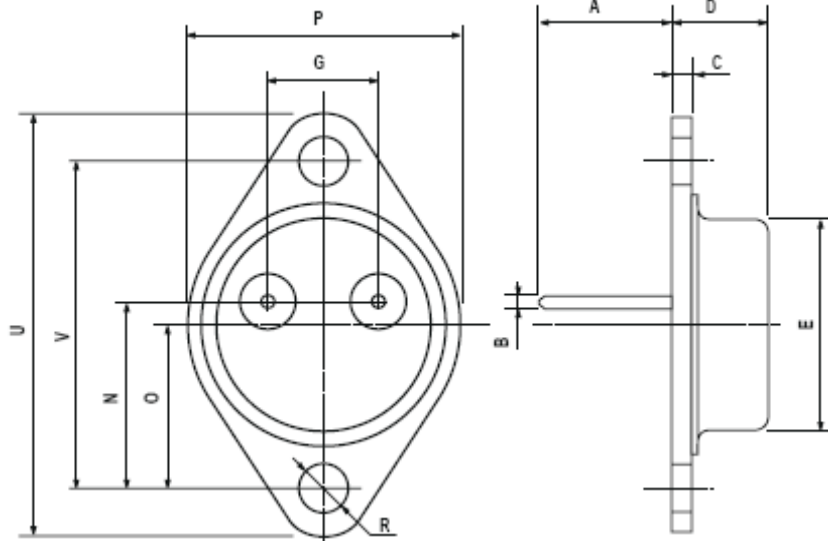
(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle $\leq 2\%$



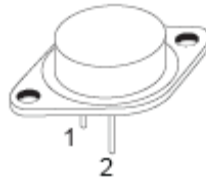
PNP 2N4398 – 2N4399 – 2N5745

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



Revised August 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.