

NPN POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/510

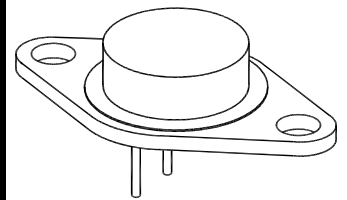
DEVICES

2N6249	2N6250	2N6251
2N6249T1	2N6250T1	2N6251T1

LEVELS
JAN
JANTX
JANTXV
JANS

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	2N6249	2N6250	2N6251	Unit
		2N6249T1	2N6250T1	2N6251T1	
V_{CE} V	V_{CE}	200	275	350	V
V_{BE} V	V_{BE}	300	375	450	V
$V_{CE(sat)}$ V	$V_{CE(sat)}$	6.0			V
I_C I	I_C	10			A
I_B I	I_B	5.0			
P_T W $(I_C = 200\text{mA}, V_{CE} = 25\text{V})^{(1)}$ $(I_C = 100\text{mA}, V_{CE} = 25\text{V})^{(2)}$	P_T	6.0 175			W
T_{stg} °C	T_{stg}	-65 to 200			°C
$R_{\theta JC}$ °C/W	$R_{\theta JC}$	1.0			°C/W

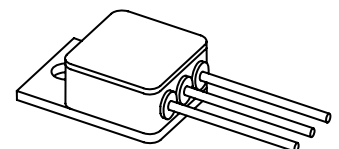


TO-3 (TO-204AA)

- (1) $I_C = 200\text{mA}$ at $V_{CE} = 25\text{V}$
 (2) $I_C = 100\text{mA}$ at $V_{CE} = 25\text{V}$

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
$I_C = 200\text{mA}$ at $V_{CE} = 30\text{V}$ to 60V $(I_B = 100\text{mA}, 900/510)$	$V_{(CE)}$	200 275 350		V
$I_C = 200\text{mA}$ at $V_{CE} = 30\text{V}$ to 60V $R_B = 50\ \Omega$ $(I_B = 100\text{mA}, 900/510)$	$V_{(BE)}$	225 300 375		V
$V_{BE} = 6.0\text{V}$	I_B		100	A



TO-254

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted) CONT.

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
6166 $V_E = 150\text{V}$ $V_E = 225\text{V}$ $V_E = 300\text{V}$	26249T 26250, T 26251, T		1.0	mA
6166 $V_E = 225\text{V}$ $I_B = 1.5\text{mA}$ $V_E = 300\text{V}$ $I_B = 1.5\text{mA}$ $V_E = 375\text{V}$ $I_B = 1.5\text{mA}$	26249T 26250, T 26251, T		100	μA
6166 $V_B = 300\text{V}$ $V_B = 375\text{V}$ $V_B = 450\text{V}$	26249T 26250, T 26251, T		0.5	mA
ON CHARACTERISTICS ⁽³⁾				
6166 $I_C = 10\text{mA}$ $V_E = 3\text{V}$	26249T 26250, T 26251, T	10 8 6	50 50 50	
6166 $I_C = 10\text{mA}$ $I_B = 1.0\text{mA}$ $I_C = 10\text{mA}$ $I_B = 1.25\text{mA}$ $I_C = 10\text{mA}$ $I_B = 1.67\text{mA}$	26249T 26250, T 26251, T		1.5	V
6166 $I_C = 10\text{mA}$ $I_B = 1.0\text{mA}$ $I_C = 10\text{mA}$ $I_B = 1.25\text{mA}$ $I_C = 10\text{mA}$ $I_B = 1.67\text{mA}$	26249T 26250, T 26251, T		2.25	V

DYNAMIC CHARACTERISTICS

6166 6166 $I_C = 1.0\text{mA}$ $V_E = 10\text{V}$	$h_{FE} \geq 2.5$	15		
6166 $V_B = 10\text{V}$ $I_C = 0, 100\text{mA}$ $\leq f \leq 1.0\text{MHz}$	C_b		500	pF

(3) ~~6166~~300 ~~μs~~ $\leq 2.0\%$



6 Lake Street, Lawrence, MA 01841
 1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
 Website: <http://www.microsemi.com>

TECHNICAL DATA SHEET

Gort Road Business Park, Ennis, Co. Clare, Ireland
 Tel: +353 (0) 65 6840044 Fax: +353 (0) 65 6822298

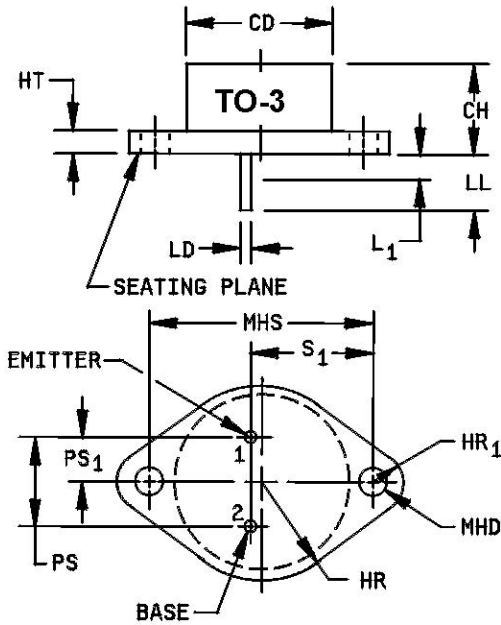
SWITCHING CHARACTERISTICS

$V_C = 200V$ $I_B = 1.0A$ $I_B = 1.25A$ $I_B = 1.67A$	$C = 10nF$ 	 	 	 	 	 	 	
$V_C = 200V$ $I_B = 1.0A$ $I_B = 1.25A$ $I_B = 1.67A$	$C = 10nF$ 	 	 	 	 	 	 	

SAFE OPERATING AREA

DC Tests $T_C = 25^\circ C$ Test 1 $V_E = 17.5V$ Test 2 $V_E = 30V$ Test 3 $V_E = 100V$ Test 4 $V_E = 200V$ Test 5 $V_E = 275V$ Test 6 $V_E = 350V$	$C = 10nF$ $C = 10nF$ $C = 5.8nF$ $C = 0.3nF$ $C = 0.13nF$ $C = 0.065nF$	 	 	 	 	 	
---	---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

PACKAGE DIMENSIONS

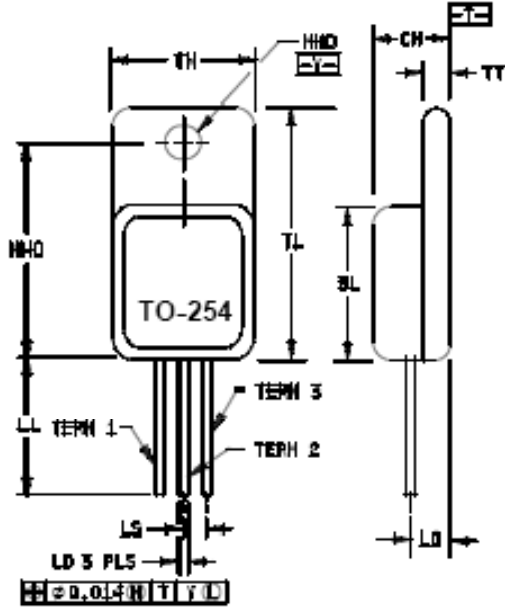


L	D				
	M	M	M	M	
D		875		22.23	
H	250	450	6.35	11.43	
R	49	.525	12.57	13.34	
R ₁	.131	.188	3.33	4.78	
H	.050	.135	1.27	3.43	
D	.038	.053	0.9	1.35	3, 5
L	.312	.500	7.9	12.70	3
L ₁		.050		1.27	5
M	.151	.161	3.84	4.09	
N	1.177	1.19	29	30.40	
B	.420	.440	10.67	11.18	2
B ₁	.205	.25	5.21	6.35	2, 3
S ₁	.665	.675	16.89	17.15	2

NOTES:

1. ~~0.050 (1.27)~~
2. ~~0.055 (1.40)~~
3. ~~0.050 (1.27)~~
4. ~~0.050 (1.27)~~
5. ~~0.050 (1.27)~~
6. ~~0.050 (1.27)~~

FIGURE 1. ~~TO-3~~



L	D			
	h		M	
	M	M	M	M
B	.535	.545	13.59	13.84
H	.249	.260	6.32	6.60
D	.035	.045	0.89	1.14
L	.530	.550	13.46	13.9
O	.150 B		3.81 B	
S	.150 B		3.80 B	
M	.139	.149	3.53	3.78
M	.665	.685	16.89	17.40
L	.79	.800	20.07	20.32
T	.040	.050	1.02	1.27
W	.535	.545	13.59	13.84
B	B			
B	B			
B	B			

NOTES:

1. ~~h~~
2. ~~h~~
3. ~~h~~
4. ~~h~~ .5M ~~h~~ ~~h~~

FIGURE 2. ~~h~~ 24V, 26250T, ~~h~~ 26251T (Q54A)