COMSET SEMICONDUCTORS

2N6050/51/52
2N6057/58/59

POWER COMPLEMENTARY SILICON TRANSISTORS

The 2N6050, 2N6051 and 2N6052 are silicon epitaxial-base PNP transistors in monolithic Darlington configuration mounted in Jedec TO-3 metal case. They are inteded for use in power linear and low frequency switching applications. The complementary NPN types are 2N6057, 2N6058 and 2N6059 respectively.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	*Collector-Base Voltage*	I_E=0	**2N6050 2N6057**	60	V
			2N6051 2N6058	80	
			2N6052 2N6059	100	
V_{CEO}	*Collector-EmitterVoltage*	I_B=0	**2N6050 2N6057**	60	V
			2N6051 2N6058	80	
			2N6052 2N6059	100	
V_{CEX}	*Collector-EmitterVoltage*	V_{BE}=-1.5 V	**2N6050 2N6057**	60	V
			2N6051 2N6058	80	
			2N6052 2N6059	100	
V_{EBO}	*Emitter-Base Voltage*	I_C=0	**2N6050 2N6057**	5.0	V
			2N6051 2N6058		
			2N6052 2N6059		

2N6050/51/52
2N6057/58/59

I_C	*Collector Current*		**2N6050 2N6057**	12	A
			2N6051 2N6058		
			2N6052 2N6059		
I_{CM}	*Collector Peak Current*		**2N6050 2N6057**	20	A
			2N6051 2N6058		
			2N6052 2N6059		
I_B	*Base Current*		**2N6050 2N6057**	0.2	mA
			2N6051 2N6058		
			2N6052 2N6059		
P_T	*Power Dissipation*	*@ T_C < 25°*	**2N6050 2N6057**	150	Watts
			2N6051 2N6058		
			2N6052 2N6059		
T_J T_s	*Junction Storage Temperature*		**2N6050 2N6057**	200 -65 to +200	°C
			2N6051 2N6058		
			2N6052 2N6059		

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
$R_{thJ\text{-}C}$	*Thermal Resistance, Junction to Case*	**2N6050 2N6057**	1.17	°C/W
		2N6051 2N6058		
		2N6052 2N6059		

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2N6050/51/52
2N6057/58/59

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
I_{CEX}	*Collector Cutoff Current*	V_{CE}= V_{CEX} =60 V, V_{BE}=-1.5 V	**2N6050 2N6057**	-	-	500	µA
		V_{CE}= V_{CEX} =80 V, V_{BE}=-1.5 V	**2N6051 2N6058**	-	-		
		V_{CE}= V_{CEX} =100 V, V_{BE}=-1.5 V	**2N6052 2N6059**	-	-		
		V_{CE}= V_{CEX} =60 V, V_{BE}=-1.5 V T_C=150°C	**2N6050 2N6057**	-	-	5	mA
		V_{CE}= V_{CEX} =80 V, V_{BE}=-1.5 V T_C=150°C	**2N6051 2N6058**	-	-		
		V_{CE}= V_{CEX} =100 V, V_{BE}=-1.5 V, T_C=150°C	**2N6052 2N6059**	-	-		
I_{CEO}	*Collector Cutoff Current*	V_{CE}=30 Vdc, I_B=0	**2N6050 2N6057**	-	-	1.0	mA
		V_{CE}=40 Vdc, I_B=0	**2N6051 2N6058**	-	-		
		V_{CE}=50 Vdc, I_B=0	**2N6052 2N6059**	-	-		
I_{EBO}	*Emitter Cutoff Current*	V_{EB}=5 V	**2N6050 2N6057**	-	-	2.0	mA
			2N6051 2N6058	-	-		
			2N6052 2N6059	-	-		
$V_{CEO(SUS)}$	*Collector-Emitter Sustaining Voltage (*)*	I_C=0.1 A	**2N6050 2N6057**	60	-	-	V
			2N6051 2N6058	80	-	-	
			2N6052 2N6059	100	-	-	

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2N6050/51/52
2N6057/58/59

$V_{CE(SAT)}$	*Collector-Emitter saturation Voltage (*)*	I_C=6 A, I_B=24 mA	**2N6050 2N6057**	-	-	2.0	V
			2N6051 2N6058				
			2N6052 2N6059				
		I_C=12 A, I_B=120 mA	**2N6050 2N6057**	-	-	3.0	
			2N6051 2N6058				
			2N6052 2N6059				
$V_{BE(SAT)}$	*Base-Emitter Saturation Voltage (*)*	I_C=12 A, I_B=120 mA	**2N6050 2N6057**	-	-	4	V
			2N6051 2N6058				
			2N6052 2N6059				
$V_{BE(ON)}$	*Base-Emitter Voltage (*)*	I_C=6 A, V_{CE}=3 V	**2N6050 2N6057**	-	-	2.8	V
			2N6051 2N6058				
			2N6052 2N6059				
f_T	*Transition Frequency*	I_C=5 A, V_{CE}=3 V, f=1 MHz	**2N6050 2N6057**	4	-	-	MHz
			2N6051 2N6058				
			2N6052 2N6059				
h_{FE}	*DC Current Gain (*)*	V_{CE}=3 V, I_C=6.0 A	**2N6050 2N6057**	750	-	18000	-
			2N6051 2N6058				
			2N6052 2N6059				
		V_{CE}=3.0 V, I_C=12 A	**2N6050 2N6057**	100	-	-	
			2N6051 2N6058				
			2N6052 2N6059				

! ! ! For PNP types current and voltage values are negative ! ! !

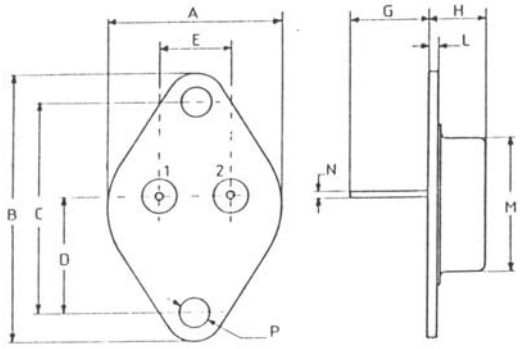
(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2.0%

COMSET SEMICONDUCTORS

2N6050/51/52
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MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector