COMSET SEMICONDUCTORS

BDY23, 180 T2
BDY24, 181 T2
BDY25, 182 T2

NPN SILICON TRANSISTORS, DIFFUSED MESA

LF Large Signal Power Amplification
High Current Fast Switching

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage		**BDY23, 180T2**	60	V
			BDY24, 181T2	90	
			BDY25, 182T2	140	
V_{CBO}	Collector-Base Voltage		**BDY23, 180T2**	60	V
			BDY24, 181T2	100	
			BDY25, 182T2	200	
V_{EBO}	Emitter-Base Voltage		**BDY23, 180T2** **BDY24, 181T2** **BDY25, 182T2**	10	V
I_C	Collector Current		**BDY23, 180T2** **BDY24, 181T2** **BDY25, 182T2**	6	A
I_B	Base Current		**BDY23, 180T2** **BDY24, 181T2** **BDY25, 181T2**	3	A
P_{TOT}	Power Dissipation	@ T_C = 25°	**BDY23, 180T2** **BDY24, 181T2** **BDY25, 182T2**	87.5	Watts
T_J	Junction Temperature		**BDY23, 180T2** **BDY24, 181T2** **BDY25, 182T2**	200 -65 to +200	°C
T_{Stg}	Storage Temperature				

BDY23, 180 T2
BDY24, 181 T2
BDY25, 182 T2

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	**BDY23, 180T2 BDY24, 181T2 BDY25, 182T2**	2	°C/W

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$V_{CEO(BR)}$	Collector-Emitter Breakdown Voltage (*)	I_C=50 mA, I_B=0	**BDY23, 180T2**	60	-	-	V
			BDY24, 181T2	90	-	-	
			BDY25, 182T2	140	-	-	
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (*)	I_C=3 mA	**BDY23, 180T2**	60	-	-	V
			BDY24, 181T2	100	-	-	
			BDY25, 182T2	200	-	-	
I_{CEO}	Collector-Emitter Cutoff Current	V_{CE}=60 V	**BDY23**	-	-	1.0	mA
		V_{CE}=90 V	**BDY24**	-	-		
		V_{CE}=140 V	**BDY25**	-	-		
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}=10 V	**BDY23, 180T2 BDY24, 181T2 BDY25, 182T2**	-	-	1.0	mA
I_{CES}	Collector-Emitter Cutoff Current	V_{CE}=60 V V_{BE}=0 V	**BDY23, 180T2**	-	-	0.5	mA
		V_{CE}=100 V V_{BE}=0 V	**BDY24, 181T2**	-	-	1.0	
		V_{CE}=180 V V_{BE}=0 V	**BDY25, 182T2**	-	-	1.0	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=2.0 A, I_B=0.25 A	**BDY23, 180T2**	-	-	1	V
			BDY24, 181T2	-	-	0.6	
			BDY25, 182T2	-	-	0.6	

BDY23, 180 T2
BDY24, 181 T2
BDY25, 182 T2

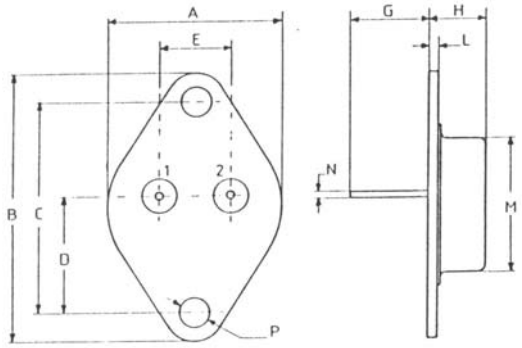
Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$V_{BE(SAT)}$	Base-Emitter Voltage (*)	I_C=2.0 A, I_B=0.25 A	**BDY23, 180T2**	-	-	2.0	V
			BDY24, 181T2	-	-	1.2	
			BDY25, 182T2	-	-	1.2	
h_{21E}	Static Forward Current transfer ratio (*)	V_{CE}=4 V, I_C=1 A	**A**	-	55	-	-
			B	-	65	-	
			C	-	90	-	
		V_{CE}=4 V, I_C=2 A	**A**	15	20	45	
			B	30	45	90	
			C	75	82	100	
f_T	Transition Frequency	V_{CE}=15 V, I_C=0.5 A, f=10 MHz	**BDY23, 180T2 BDY24, 181T2 BDY25, 182T2**	10	-	-	MHz
$t_d + t_r$	Turn-on time	I_C=5 A, I_B=1 A	**BDY23, 180T2 BDY24, 181T2 BDY25, 182T2**	-	0.3	0.5	μs
$t_s + t_f$	Turn-off time	I_C=5 A, I_{B1}=1 A, I_{B2}=-0.5 A	**BDY23, 180T2 BDY24, 181T2 BDY25, 182T2**	-	1.5	2.0	μs

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

BDY23, 180 T2
BDY24, 181 T2
BDY25, 182 T2

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,45	1
B	38,8	1,52
C	30,09	1,184
D	17,11	0,67
E	9,78	0,38
G	11,09	0,43
H	8,33	0,32
L	1,62	0,06
M	19,43	0,76
N	1	0,04
P	4,08	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector