COMSET SEMICONDUCTORS

BDY57 – BDY58

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		**BDY57**	80	V
			BDY58	125	
V_{CBO}	Collector-Base Voltage		**BDY57**	120	V
			BDY58	160	
V_{EBO}	Emitter-Base Voltage		**BDY57 BDY58**	10	V
I_C	Collector Current		**BDY57 BDY58**	25	A
I_B	Base Current		**BDY57 BDY58**	6	A
P_{TOT}	Power Dissipation	@ T_C = 25°	**BDY57 BDY58**	175	Watts
T_J	Junction Temperature		**BDY57 BDY58**	-65 to +200	°C
T_S	Storage Temperature				

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	**BDY57 BDY58**	1	°C/W

BDY57 – BDY58

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage (*)	I_C=100 mA, I_B=0	**BDY57**	80	-	-	V
			BDY58	125	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=10 A, I_B=1.0 A	**BDY57 BDY58**	-	0.5	1.4	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (*)	I_C=5.0mA, I_E=0	**BDY57**	120	-	-	V
			BDY58	160	-	-	
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (*)	I_E=5.0 A, I_C=0	**BDY57 BDY58**	-	0.5	1.4	V
I_{CBO}	Collector-Base Cutoff Current	V_{CB}=120 V I_E=0 V	**BDY57 BDY58**	-	0.5	1.0 0.5	mA
I_{CER}	Collector-Emitter Cutoff Current	V_{CE}=80 V R_{BE}=10 Ω T_{CASE}=100°C	**BDY57 BDY58**	-	-	10	mA
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}=10 V I_C=0 V	**BDY57 BDY58**	- -	0.25	0.5	mA
h_{21E}	Static Forward Current transfer ratio (*)	V_{CE}=4 V, I_C=10 A	**BDY57 BDY58**	20	-	60	V
		V_{CE}=4 V, I_C=20 A	**BDY57 BDY58**	-	15	-	
		V_{CE}=4 V, I_C=10 A, T_{CASE}=-30°C	**BDY57 BDY58**	10	-	-	
f_T	Transition Frequency	V_{CE}=15 V, I_C=1.0 A, f=10 MHz	**BDY57 BDY58**	10	30	-	MHz
$t_d + t_r$	Turn-on time	I_C=15 A, I_B=1.5 A	**BDY57 BDY58**	-	0.25	1	µs

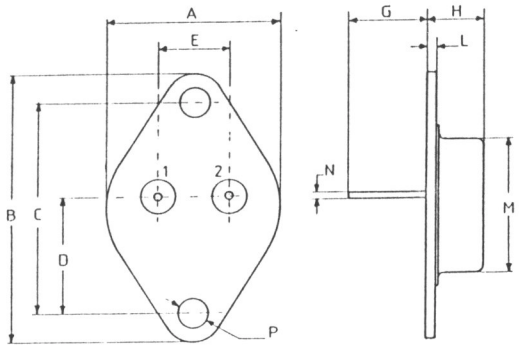
BDY57 – BDY58

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$t_s + t_f$	Turn-off time	I_C=15 A, I_{B1}=1.5 A, I_{B2}=-1.5 A	**BDY57** **BDY58**	-	1	2	µs

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

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 :	Collector
Case :	Emitter