COMSET SEMICONDUCTORS

BDY55 – BDY56

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		**BDY55**	60	V
			BDY56	120	
V_{CBO}	Collector-Base Voltage		**BDY55**	100	V
			BDY56	150	
V_{EBO}	Emitter-Base Voltage		**BDY55 BDY56**	7	V
I_C	Collector Current		**BDY55 BDY56**	15	A
I_B	Base Current		**BDY55 BDY56**	7	A
P_{TOT}	Power Dissipation	@ T_C = 25°	**BDY55 BDY56**	117	Watts
T_J	Junction Temperature		**BDY55 BDY56**	200	°C
T_S	Storage Temperature		**BDY55 BDY56**	65 to +200	°C

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	**BDY55 BDY56**	1.5	°C/W

BDY55 – BDY56

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=200 mA, I_B=0	**BDY55**	60	-	-	V
			BDY56	120	-	-	
I_{CEO}	Collector-Emitter Cutoff Current	V_{CE}=30 V	**BDY55**	-	-	0.7	mA
		V_{CE}=60 V	**BDY56**	-	-	0.5	
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}=7 V	**BDY55**	-	-	5.0	mA
			BDY56	-	-	3.0	
I_{CEX}	Collector-Emitter Cutoff Current	V_{CE}=100 V V_{BE}=-1.5 V	**BDY55**	-	-	5.0	mA
		V_{CE}=100 V V_{BE}=-1.5 V T_{CASE}=150°C		-	-	30	
		V_{CE}=150 V V_{BE}=-1.5 V	**BDY56**	-	-	3.0	
		V_{CE}=150 V V_{BE}=-1.5 V T_{CASE}=150°C		-	-	30	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=4.0 A, I_B=0.4 A	**BDY55** **BDY56**	-	-	1.1	V
		I_C=10 A, I_B=3.3 A	**BDY55** **BDY56**	-	-	2.5	
V_{BE}	Base-Emitter Voltage (*)	I_C=4.0 A, V_{CE}=4.0 V	**BDY55** **BDY56**	-	-	1.8	V
h_{21E}	Static Forward Current transfer ratio (*)	V_{CE}=4 V, I_C=4 A	**BDY55** **BDY56**	20	-	70	V
		V_{CE}=4 V, I_C=10 A	**BDY55** **BDY56**	10			
f_T	Transition Frequency	V_{CE}=4.0 V, I_C=1.0 A, f=10 MHz	**BDY55** **BDY56**	10	-	-	MHz

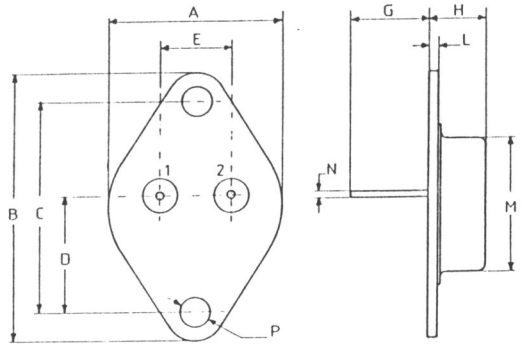
BDY55 – BDY56

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
$t_d + t_r$	Turn-on time	I_C=5 A, I_B=1 A	**BDY55 BDY56**	-	-	0.5	µs
$t_s + t_f$	Turn-off time	I_C=5 A, I_{B1}=1 A, I_{B2}=-0.5 A	**BDY55 BDY56**	-	-	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