COMSET SEMICONDUCTORS

BDY55/BDY56

NPN SILICON TRANSISTORS, DIFFUSED MESA

LF Large Signal Power Amplification
High Current Fast Switching.

Compliance to RoHS.

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	

THERMAL CHARACTERISTICS

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

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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	mA
			BDY56	-	-	3	
I_{CEX}	Collector-Emitter Cutoff Current	V_{CE} = 100 V V_{BE} = -1.5 V	**BDY55**	-	-	5	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	
		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	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	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_{FE}	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
$t_d + t_r$	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%

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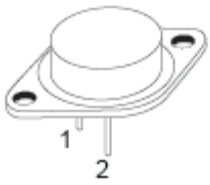
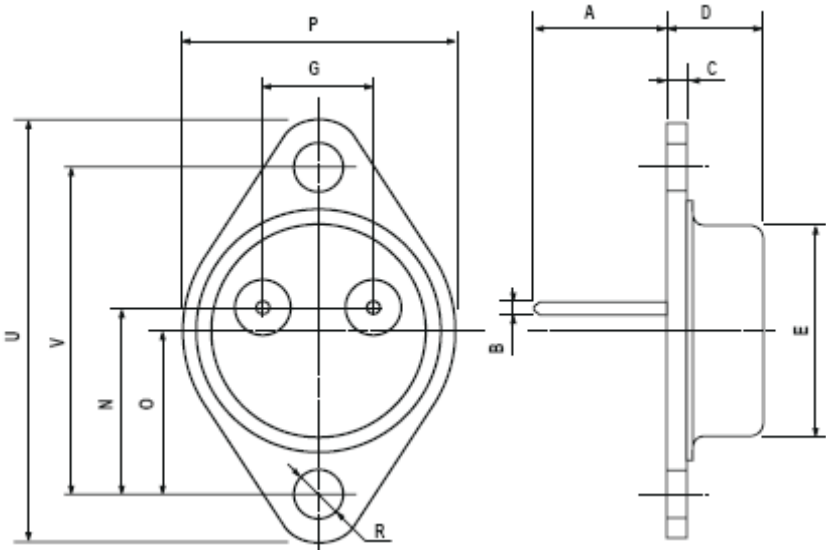
MECHANICAL DATA CASE TO-3



DIMENSIONS (mm)			
	min	typ	max
A	11	-	13.10
B	0.97	-	1.15
C	1.5	-	1.65
D	8.32	-	8.92
F	19	-	20
G	10.70	-	11.1
N	16.50	-	17.20
P	25	-	26
R	4	-	4.09
U	38.50	-	39.30
V	30	-	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector