



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	10	V
		BDY58		
I_C	Collector Current	BDY57	25	A
		BDY58		
I_B	Base Current	BDY57	6	A
		BDY58		
P_{TOT}	Power Dissipation	@ $T_C = 25^\circ$	BDY57 BDY58	175 Watts
T_J	Junction Temperature	BDY57 BDY58	-65 to +200	$^\circ\text{C}$
T_S	Storage Temperature			

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	BDY57 BDY58	1	$^\circ\text{C/W}$

BDY57 – BDY58

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

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

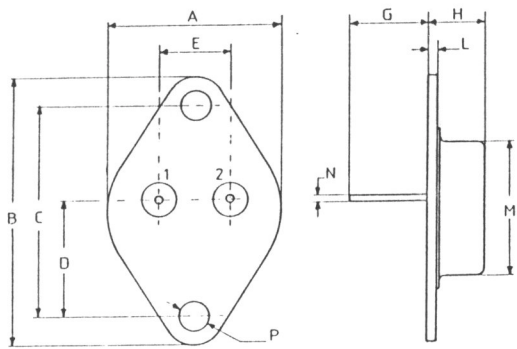
BDY57 – BDY58

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 $\approx 300\text{ }\mu\text{s}$, Duty Cycle $\angle 2.0\%$

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