NPN BDY57 – BDY58

SILICON TRANSISTORS, DIFFUSED MESA

The BDY57 and BDY58 are mounted in TO-3 metal package.
LF Large Signal Power Amplification
High Current Fast Switching.
Compliance to RoHS.

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		10	V
I_C	Collector Current		25	A
I_B	Base Current		6	A
P_{TOT}	Power Dissipation	@ TC = 25°	175	W
$T_{J\,TS}$	Junction Temperature Storage Temperature		-65 to +200	℃

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

TC=25℃ unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage (*)	I_C= 100 mA, I_B= 0	BDY57	80	-	-	V
			BDY58	125	-	-	
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (*)	I_C= 5 mA, I_E= 0	BDY57	120	-	-	V
			BDY58	160	-	-	
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (*)	I_E= 5 mA, I_C= 0	BDY57	10	-	-	V
			BDY58				
I_{CBO}	Collector-Base Cutoff Current	V_{CB}= 120 V, I_E=0 V	BDY57	-	-	1.0	mA
			BDY58	-	-	0.5	
I_{CER}	Collector-Emitter Cutoff Current	V_{CE}= 80 V, R_{BE}= 10 Ω T_{CASE}= 100℃	BDY57	-	-	10	mA
			BDY58				
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}= 10 V, I_C= 0 V	BDY57	-	0.25	0.5	mA
			BDY58				
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= 10 A, I_B= 1 A	BDY57	-	0.5	1.4	V
			BDY58				
h_{21E}	Static Forward Current transfer ratio (*)	V_{CE}= 4 V, I_C= 10 A	BDY57	20	-	60	V
			BDY58				
		V_{CE}= 4 V, I_C= 20 A	BDY57	-	15	-	
			BDY58				
		V_{CE}= 4 V, I_C= 10 A T_{CASE}= -30℃	BDY57	10	-	-	
			BDY58				
f_T	Transition Frequency	V_{CE}= 15 V, I_C= 1 A f= 10 MHz	BDY57	10	30	-	MHz
			BDY58				
$t_{d + tr}$	Turn-on time	I_C= 15 A, I_B= 1.5 A	BDY57	-	0.25	1	µs
			BDY58				
$t_{s + tf}$	Turn-off time	I_C= 15 A, I_{B1}= 1.5 A I_{B2}=- 1.5 A	BDY57	-	1	2	µs
			BDY58				

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

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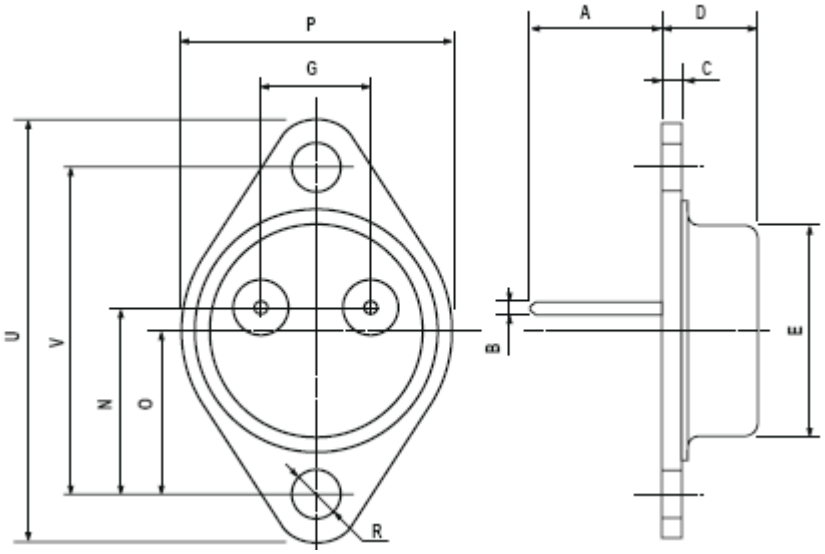
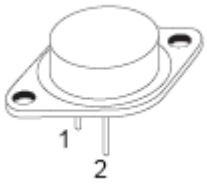
MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)			
	min	typ	max
A	11	-	13.10
B	0.97	-	1.15
C	1.5	-	1.65
D	8.32	-	8.92
E	19	-	22
G	10.70	-	11.1
N	16.50	-	17.20
P	25	-	27,20
R	3.84	-	4.21
U	38.50	-	40.13
V	29.90	-	30.40



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



Revised

April 2016

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