



BU806

SILICON DARLINGTON POWER TRANSISTORS

They are silicon epitaxial planar NPN power transistors in Darlington configuration mounted in a TO-220 plastic package.

They are high voltage, high current devices for fast switching applications.

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CBO}	Collector-Base Voltage		400	V
V_{CEV}	Collector-Emitter Voltage		400	
V_{CEO}	Collector-Emitter Voltage		200	V
V_{EBO}	Emitter-Base Voltage		6	V
I_C	Collector Current		8	A
I_{CM}	Collector Peak Current		15	A
I_B	Base Current		2	A
P_T	Power Dissipation at Case Temperature	$T_{mb} < 25^\circ\text{C}$	60	W
t_J	Junction Temperature		150	°C
t_s	Storage Temperature range		-65 to +150	

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJC}	From Junction to Case Thermal Resistance		2.08	°C/W
R_{thJA}	From Junction to Free-Air Thermal Resistance		70	

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ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	$I_C= 100\text{ mA}, I_B= 0$	200	-	-	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = 400\text{ V}, V_{BE(off)} = 6\text{ V}$	-	-	100	μA
I_{CES}	Collector Cutoff Current	$V_{CE} = 400\text{ V}, V_{BE(off)} = 0\text{ V}$	-	-	100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 6\text{ V}, I_C = 0$	-	-	3	mA
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C = 5\text{ A}, I_B = 250\text{ mA}$	-	-	1.5	V
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (*)	$I_C = 5\text{ A}, I_B = 250\text{ mA}$	-	-	2.4	V
V_F	Diode forward Voltage (*)	$I_F = 7\text{ A}$	-	-	3.5	V

SWITCHING TIMES.

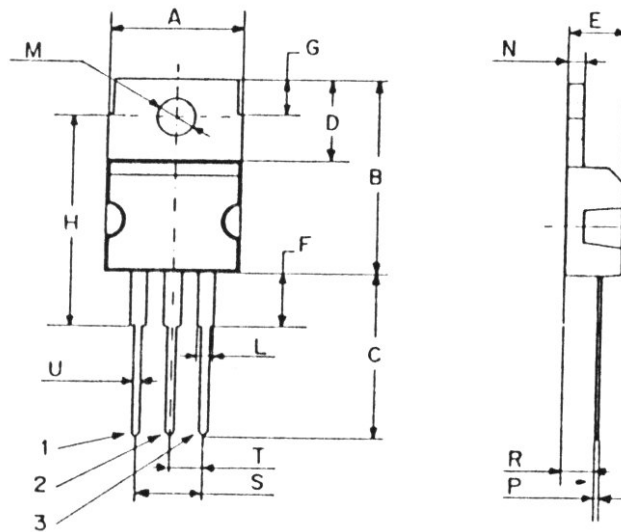
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
t_{on}	turn-on time	$V_{CC} = 100\text{ V}; I_C = 5\text{ A}$ $I_{B1} = 50\text{ mA}, I_{B2} = 500\text{ mA}$	-	0.35	-	μs
t_s	Storage Time		-	0.55	-	
t_f	Fall Time		-	0.2	-	

(*) These parameters must be measured using pulse techniques, t_p 300 μs , Duty Cycle $\leq 1.5\%$

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MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17,15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2,49	2,54
U	0,70	0,90



Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Package	Collector

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