

BUV27 – BUV27A

SILICON POWER TRANSISTORS

High-speed, NPN power transistors in a TO-220 envelope. They are intended for fast switching applications such as high frequency and efficiency converters, switching regulators and motor control.

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value		Unit
			BUV27	BUV27A	
V_{CBO}	Collector-Base Voltage	$I_E = 0$	240	300	V
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	120	150	V
V_{EBO}	Emitter-Base Voltage	$I_C = 0$	7	7	V
I_C	Collector Current		12		A
I_{CM}	Collector Peak Current	$t_p = 10ms$	20		A
I_B	Base Current		4		A
I_{BM}	Base Current	$t_p = 10ms$	6		A
P_t	Power Dissipation		85	85	W
T_j	Junction Temperature		175		°C
T_{stg}	Storage Temperature range		-65 to 175		

Limiting values in accordance with the Absolute Maximum System (IEC 134)

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-mb}	From junction to mounting base	1.76	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Value			Unit	
			Min	Typ	Max		
I_{CEX}	Collector Cutoff Current (*)	$V_{CE} = V_{CESMax}$ $V_{BE} = 1.5V, T_J = 125^\circ C$	BUV27	-	-	1	mA
			BUV27A				
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5V, I_C = 0$	BUV27	-	-	1	mA
			BUV27A				
$V_{CEO_{sust}}$	Collector-Emitter Sustaining Voltage	$I_B = 0, I_C = 0.2A$ $L = 25mH$	BUV27	120	-	-	V
			BUV27A	150	-	-	
V_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 50mA, I_C = 0$	BUV27	7	-	30	V
			BUV27A				
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage	$I_C = 4A, I_B = 400mA$	BUV27	-	-	0.7	V
			BUV27A	-	-	0.7	
			BUV27	-	-	1.5	
			BUV27A	-	-	1.5	
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage	$I_C = 8A, I_B = 0.8A$	BUV27	-	-	2	V
			BUV27A	-	-	2	

SWITCHING TIMES

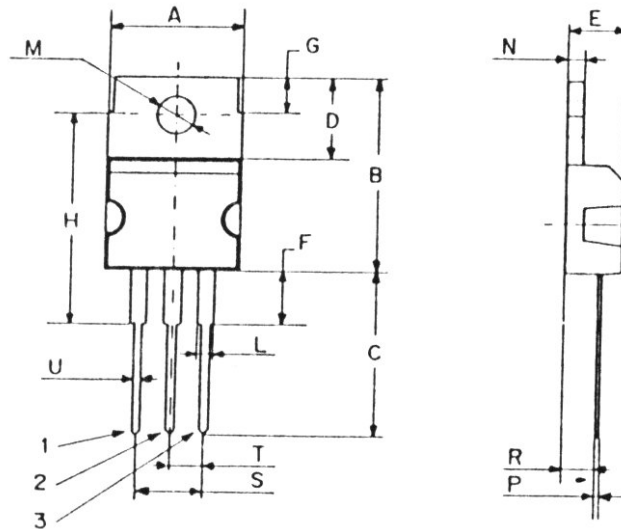
Symbol	Ratings	Test Condition(s)	Value			Unit	
			Min	Typ	Max		
t_{on}	turn-on time	For BUV27 $I_C = 8A, V_{CC} = 50V$	BUV27	-	0.4	0.8	μs
			BUV27A				
t_{off}	turn-off time	$I_{B1} = 0.8A, I_{B2} = 1.6A$ For BUV27A	BUV27	-	0.5	1.2	
			BUV27A				
t_f	Fall time	$I_C = 7A, V_{CC} = 50V$ $I_{B1} = 0.7A, I_{B2} = 1.4A$	BUV27	-	0.12	0.25	
			BUV27A				

(*) Measured with a half-sinewave voltage (curve tracer).

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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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