



# BUH615D

## HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- HIGH VOLTAGE CAPABILITY
- NPN TRANSISTOR WITH INTEGRATED FREEWHEELING DIODE
- U.L. RECOGNISED ISOWATT218 PACKAGE (U.L. FILE # E81734 (N))

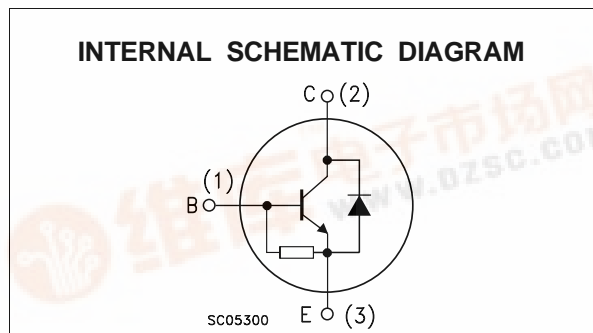
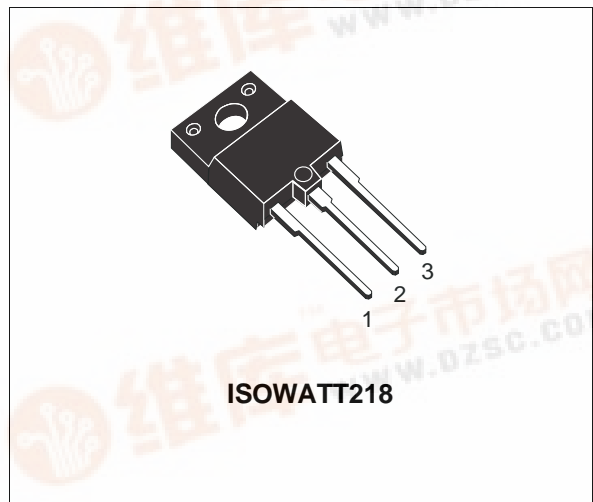
### APPLICATIONS:

- HORIZONTAL DEFLECTION FOR COLOUR TV

### DESCRIPTION

The BUH615D is manufactured using Multi-epitaxial Mesa technology for cost-effective high performance and uses a Hollow Emitter structure to enhance switching speeds.

The BUH series is designed for use in horizontal deflection circuits in televisions and monitors.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	1500	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	700	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	5	V
$I_C$	Collector Current	8	A
$I_{CM}$	Collector Peak Current ( $t_p < 5$ ms)	12	A
$I_B$	Base Current	5	A
$I_{BM}$	Base Peak Current ( $t_p < 5$ ms)	8	A
$P_{tot}$	Total Dissipation at $T_c = 25$ °C	55	W
$T_{stg}$	Storage Temperature	-65 to 150	°C
$T_j$	Max. Operating Junction Temperature	150	°C



## BUH615D

### THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	2.3	°C/W
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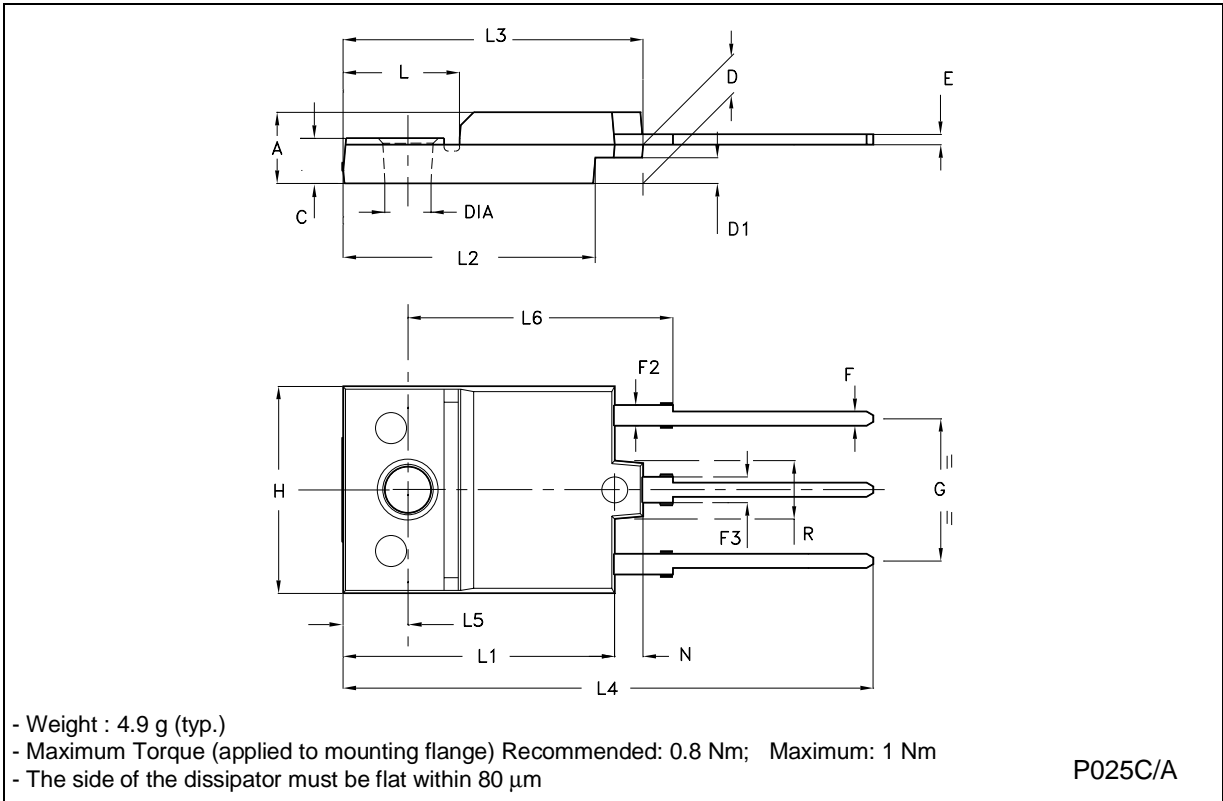
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cut-off Current ( $V_{BE} = 0$ )	$V_{CE} = 1500\text{ V}$ $V_{CE} = 1500\text{ V}$ $T_j = 125\text{ °C}$			0.2 2	mA mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 5\text{ V}$			300	mA
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 6\text{ A}$ $I_B = 2.5\text{ A}$			1.5	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 6\text{ A}$ $I_B = 2.5\text{ A}$			1.3	V
$h_{FE*}$	DC Current Gain	$I_C = 6\text{ A}$ $V_{CE} = 5\text{ V}$	4		9	
$t_s$ $t_f$	RESISTIVE LOAD Storage Time Fall Time	$V_{CC} = 400\text{ V}$ $I_C = 6\text{ A}$ $I_{B1} = 1.5\text{ A}$ $I_{B2} = -3\text{ A}$		2.7 190	3.9 280	$\mu\text{s}$ ns
$t_s$ $t_f$	INDUCTIVE LOAD Storage Time Fall Time	$I_C = 6\text{ A}$ $f = 15625\text{ Hz}$ $I_{B1} = 1.25\text{ A}$ $I_{B2} = -3\text{ A}$ $V_{ceflyback} = 1050 \sin\left(\frac{\pi}{10} 10^6\right) t\text{ V}$		2.3 350		$\mu\text{s}$ ns
$t_s$ $t_f$	INDUCTIVE LOAD Storage Time Fall Time	$I_C = 6\text{ A}$ $f = 31250\text{ Hz}$ $I_{B1} = 1.5\text{ A}$ $I_{B2} = -3\text{ A}$ $V_{ceflyback} = 1200 \sin\left(\frac{\pi}{5} 10^6\right) t\text{ V}$		2.3 200		$\mu\text{s}$ ns
$V_f$	Diode Forward Voltage	$I_F = 5\text{ A}$			2	V

\* Pulsed: Pulse duration = 300  $\mu\text{s}$ , duty cycle 1.5 %

**ISOWATT218 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	5.35		5.65	0.211		0.222
C	3.30		3.80	0.130		0.150
D	2.90		3.10	0.114		0.122
D1	1.88		2.08	0.074		0.082
E	0.75		0.95	0.030		0.037
F	1.05		1.25	0.041		0.049
F2	1.50		1.70	0.059		0.067
F3	1.90		2.10	0.075		0.083
G	10.80		11.20	0.425		0.441
H	15.80		16.20	0.622		0.638
L		9			0.354	
L1	20.80		21.20	0.819		0.835
L2	19.10		19.90	0.752		0.783
L3	22.80		23.60	0.898		0.929
L4	40.50		42.50	1.594		1.673
L5	4.85		5.25	0.191		0.207
L6	20.25		20.75	0.797		0.817
N	2.1		2.3	0.083		0.091
R		4.6			0.181	
DIA	3.5		3.7	0.138		0.146



P025C/A

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