



## HIGH VOLTAGE NPN SILICON TRANSISTOR

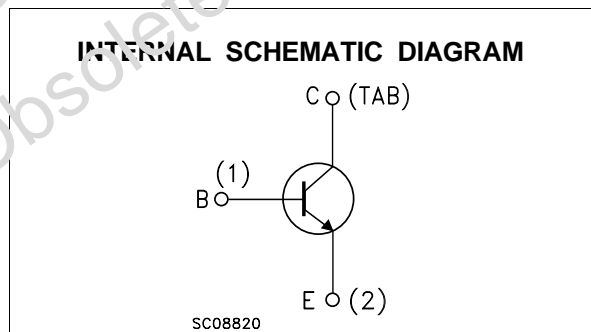
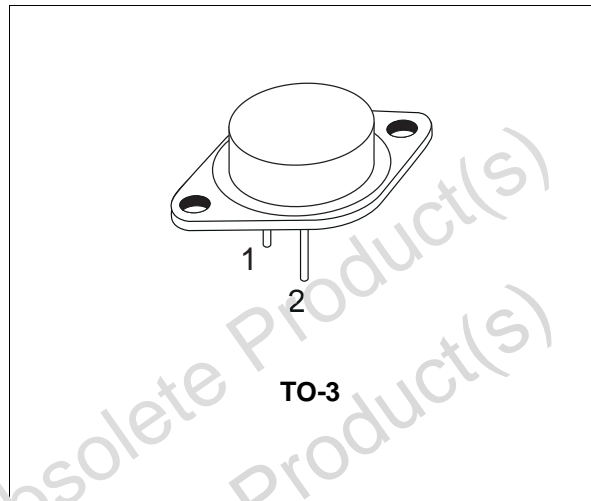
- STM PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED
- HIGH POWER TO-3 PACKAGE

### APPLICATIONS:

- HORIZONTAL DEFLECTION FOR COLOUR TV
- SWITCHING REGULATORS

### DESCRIPTION

The BUY69A is a silicon Multi-Epitaxial mesa NPN transistor in Jedec TO-3 metal case. It is intended for horizontal deflection output stage of CTV receivers and high voltage, fast switching and industrial applications.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CES}$	Collector-Emitter Voltage ( $V_{BE} = 0$ )	1000	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	400	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	8	V
$I_C$	Collector Current	10	A
$I_{CM}$	Collector Peak Current ( $t_p \leq 10$ ms )	15	A
$I_B$	Base Current	3	A
$P_{tot}$	Total Dissipation at $T_c \leq 25$ °C	100	W
$T_{stg}$	Storage Temperature	-65 to 200	°C
$T_j$	Max. Operating Junction Temperature	200	°C

## BUY69A

### THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.75	$^{\circ}C/W$
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### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

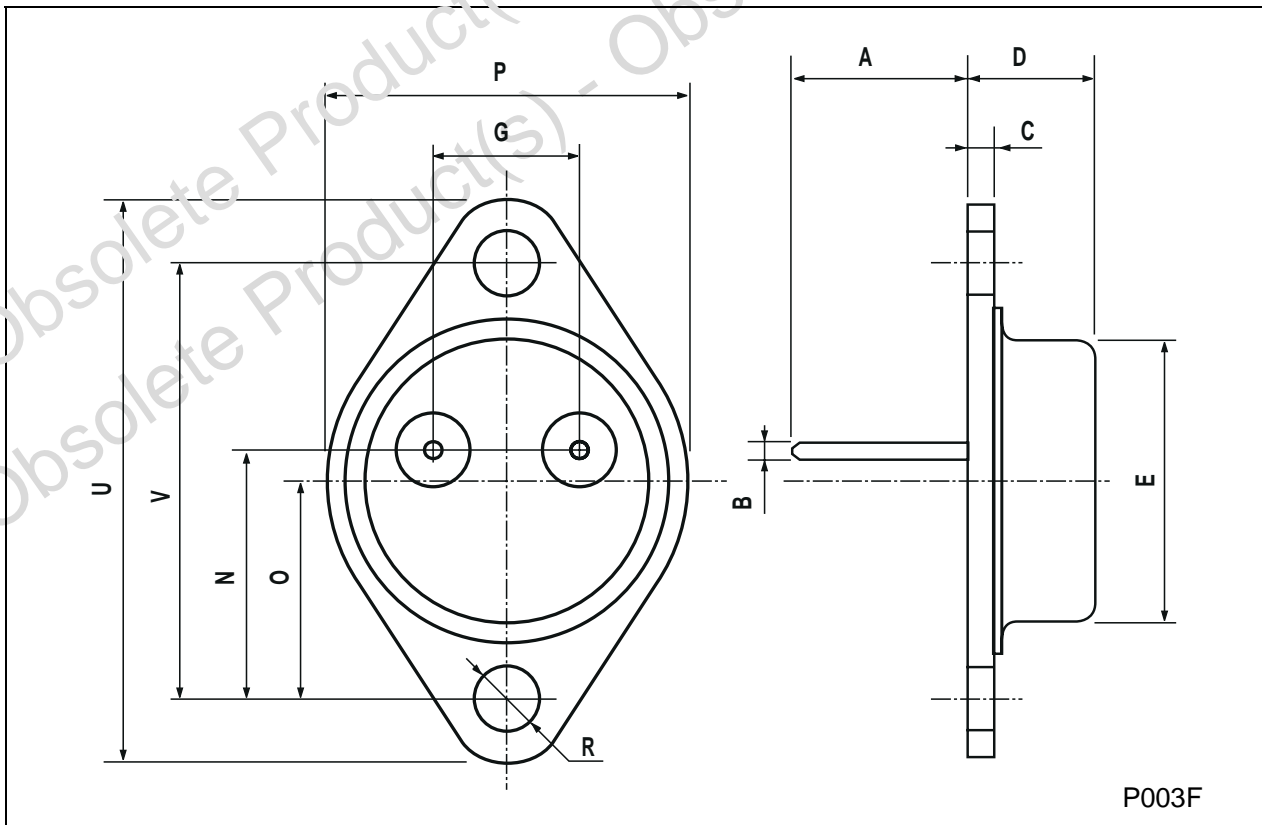
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cut-off Current ( $V_{BE} = 0$ )	$V_{CE} = 1000 V$			1	mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 8 V$			1	mA
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 100 mA$	400			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 8 A$ $I_B = 2.5 A$			3.2	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 8 A$ $I_B = 2.5 A$			2.2	V
$h_{FE*}$	DC Current Gain	$I_C = 2.5 A$ $V_{CE} = 10 V$	15			
$f_T$	Transition Frequency	$I_C = 0.5 A$ $V_{CE} = 10 V$		10		MHz
$I_{s/b}^{**}$	Second Breakdown Collector Current	$V_{CE} = 25 V$	4			A
$t_{on}$	Turn on Time	$I_C = 5 A$ $V_{CE} = 250 V$ $I_{B1} = 1 A$		0.2		$\mu s$
$t_s$ $t_s$	Storage Time Fall Time	$I_C = 5 A$ $V_{CE} = 250 V$ $I_{B1} = -I_{B2} = 1 A$			1.7 0.3	$\mu s$ $\mu s$
$t_f$	Fall Time	$I_C = 5 A$ $V_{CE} = 40 V$ $I_{B1} = -I_{B2} = 2.5 A$			1	$\mu s$

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

\*\* Pulsed: 1s, non repetitive pulse.

**TO-3 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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