

Silicon EHT Rectifier

BY140A

12kV / 2.5mA

DATASHEET

from

www.web-bcs.com

OEM –Mullard

Source: Mullard Technical Databook 1968

**SILICON
E.H.T. RECTIFIER**

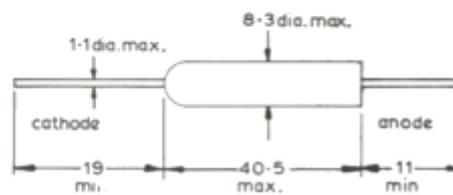
BY140A

TENTATIVE DATA

The BY140A is a plastic encapsulated silicon rectifier. It is intended for use in diode/capacitor E.H.T. voltage tripler circuits for colour television receivers.

QUICK REFERENCE DATA		
V_{RWM} max.	12	kV
V_{RRM} max.	12	kV
$I_{F(AV)}$ max.	2.5	mA
I_{FSM} max.	1000	mA
T_j max.	95	$^{\circ}\text{C}$
Q_s typ. when switched from $I_F = 200\text{mA}$ to $V_R = 100\text{V}$ with $-di/dt = 200\text{mA}/\mu\text{s}$	30	nC

OUTLINE AND DIMENSIONS



All dimensions in mm

RATINGS

Limiting values of operation according to the absolute maximum system.

Electrical

Voltage

V_{RWM} max.	Crest working reverse voltage	12	kV
V_{RRM} max.	Repetitive peak reverse voltage	12	kV
V_{RSM} max.	Non-repetitive peak reverse voltage ($t < 10\text{ms}$)	12	kV

Current

$I_{F(AV)}$ max.	Average forward current (averaged over any 20ms period)	2.5	mA
I_{FRM} max.	Repetitive peak forward current	250	mA
I_{FSM} max.	Non-repetitive peak forward current ($t < 10\text{ms}$)	1000	mA
I_{RRM} max.	Repetitive peak reverse current during switching off	150	mA

Temperature

T_{stg}	Storage temperature	-55 to +100	$^{\circ}\text{C}$
T_j max.	Junction temperature	95	$^{\circ}\text{C}$

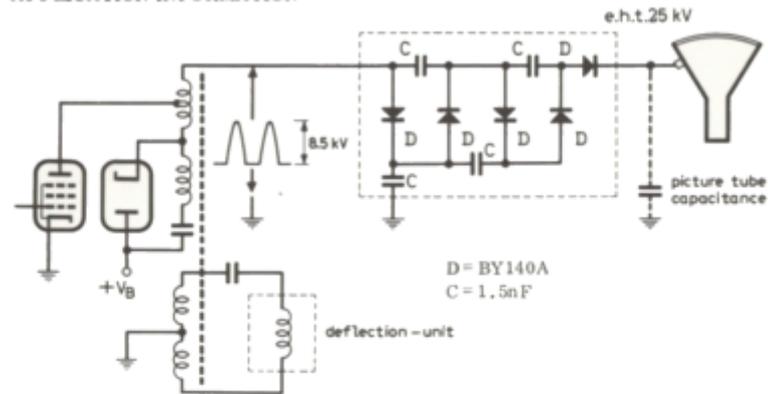
ELECTRICAL CHARACTERISTICS

		Typ.	Max.	
V_F	Forward voltage $I_F = 100\text{mA}$, $T_j = 100^{\circ}\text{C}$	-	50	V
I_R	Reverse current $V_R = 12\text{kV}$, $T_j = 75^{\circ}\text{C}$	-	10	μA
Q_s	Recovered charge when switched from $I_F = 200\text{mA}$ to $V_R = 100\text{V}$ with $\frac{di}{dt} = 200\text{mA}/\mu\text{s}$, $T_j = 25^{\circ}\text{C}$	30	-	nC

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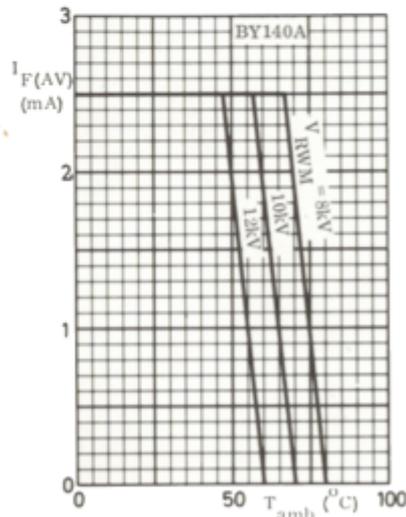
BY140A

APPLICATION INFORMATION

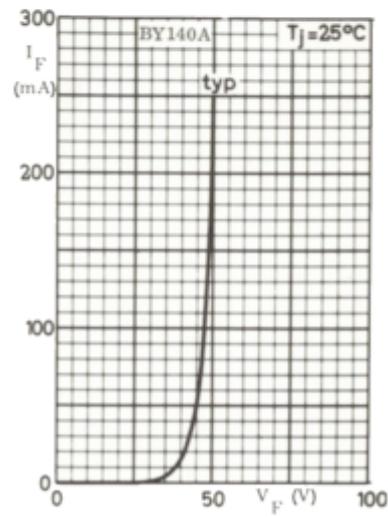


E. H. T. supply for colour television receivers by means of a tripler circuit employing BY140A diodes. Proper operation of the BY140A diodes is ensured up to an ambient temperature of 60°C.

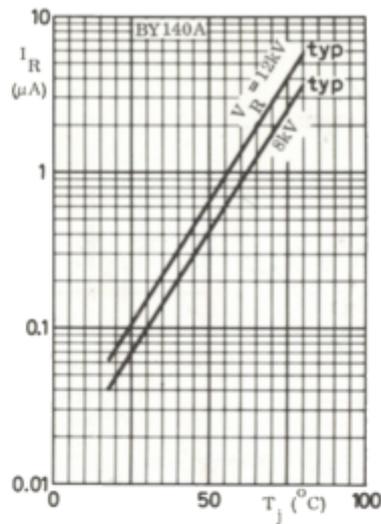
Contribution to the regulation of the complete horizontal deflection output circuit due to the tripler system (inside the dashed lines) 600kΩ.



Average forward current versus ambient temperature



Typical forward characteristics



TYPICAL REVERSE CURRENT PLOTTED AGAINST JUNCTION TEMPERATURE