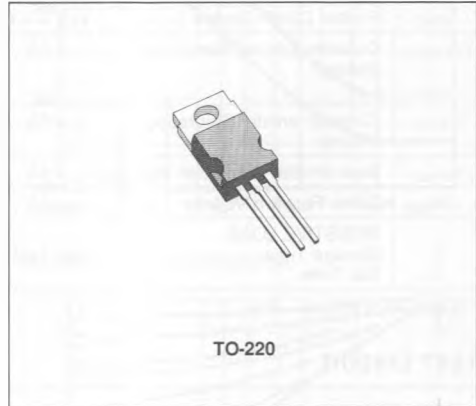


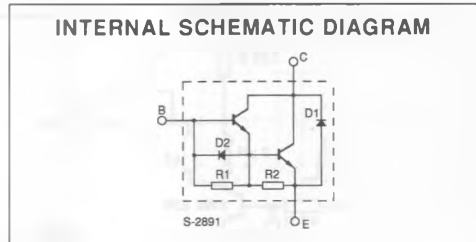
NPN SWITCHING DARLINGTONS

DESCRIPTION

Monolithic Darlingtons with integrated speed-up and damper diode, suited for TV applications.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU184	BU189	
V_{CBO}	Collector-base Voltage ($I_E = 0$)	400	330	V
V_{CEX}	Collector-emitter Voltage	400	330	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	200	150	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	8		V
I_C	Collector Current	8		A
I_{CM}	Collector Peak Current ($t_p < 10ms$)	15		A
I_B	Base Current	2		A
I_{BM}	Base Peak Current ($t_p < 10ms$)	4		A
P_{tot}	Total Dissipation at $T_c < 25^\circ C$	60		W
T_{sig}	Storage Temperature	- 65 to + 150		$^\circ C$
T_j	Max. Operating Junction Temperature	150		$^\circ C$

THERMAL DATA

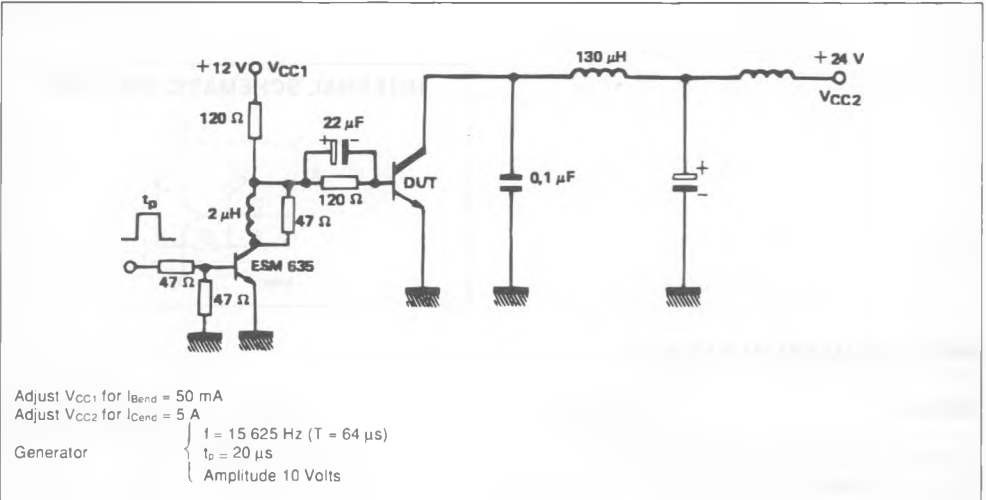
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	2.08	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

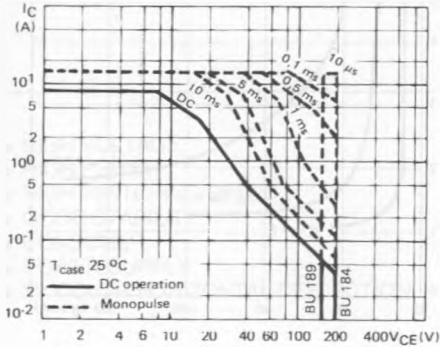
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cutoff Current	$V_{CE} = V_{CEX}$ $V_{BE} = -6V$			100	μA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = -8V$			10	mA
$V_{CE(sus)^*}$	Collector Emitter Sustaining Voltage	$I_C = 3A$ $L = 15mH$ for BU184 for BU189	200 150			V V
$V_{CE(sat)^*}$	Collector-emitter Saturation Voltage	$I_C = 5A$ $I_B = 50mA$			1.5	V
$V_{BE(sat)^*}$	Base-emitter Saturation Voltage	$I_C = 5A$ $I_B = 50mA$			2.2	V
V_F^*	Diode Forward Voltage	$I_F = 4A$		1.8	2.3	V
t_s	RESISTIVE LOAD Storage Time	See Test Circuit		0.44		μs
t_f	Fall Time			0.3	0.5	μs

* Pulse test $t_p < 300 \mu s$ $\delta < 2\%$.

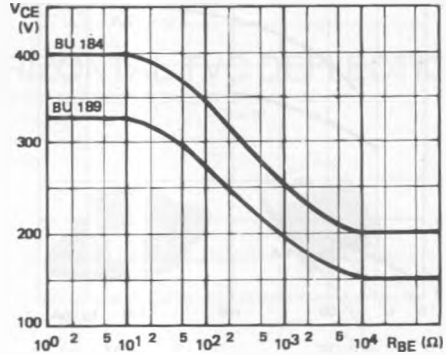
TEST CIRCUIT



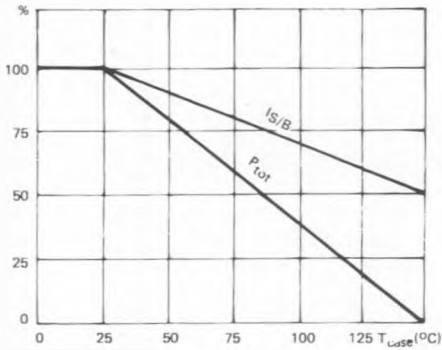
DC and Pulse Area.



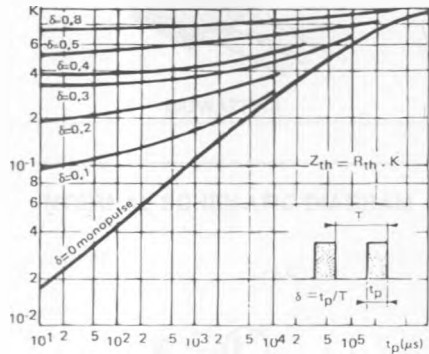
Collector-emitter Voltage vs Base-emitter Resistance.



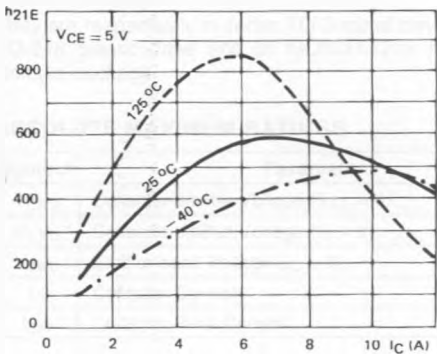
Power and IS/B Derating vs Case Temperature.



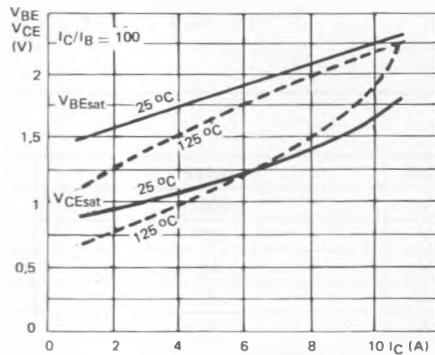
Transient Thermal Response.



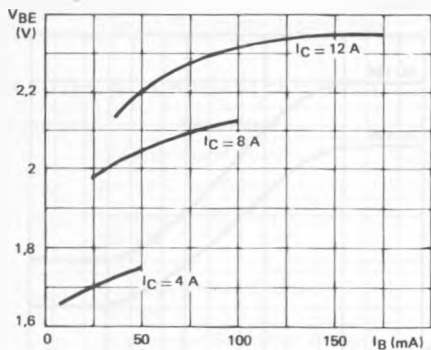
DC Current Gain.



Saturation Voltage.



Base Characteristics.



Collector Saturation Region.

