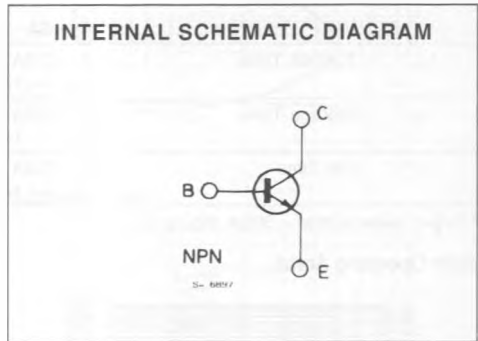
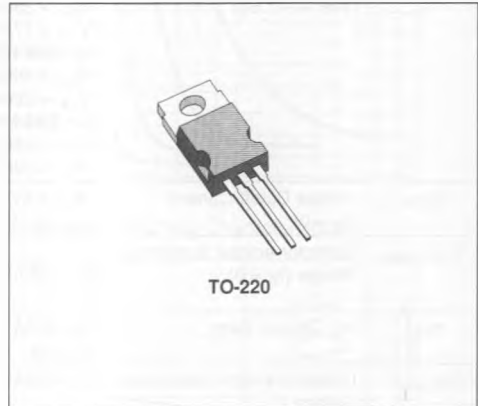


## HIGH VOLTAGE POWER SWITCH

### DESCRIPTION

The 2N6497/98/99 are silicon multi-epitaxial mesa NPN transistors in Jedec TO-220 plastic package particularly intended for switch-mode applications.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	2N6497	2N6498	2N6499	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	350	400	450	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	250	300	350	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )		6		V
$I_C$	Collector Current		5		A
$I_{CM}$	Collector Peak Current		10		A
$I_B$	Base Current		2		A
$P_{tot}$	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$		80		W
$T_{stg}$	Storage Temperature		- 65 to 150		$^\circ\text{C}$
$T_J$	Junction Temperature		150		$^\circ\text{C}$

**THERMAL DATA**

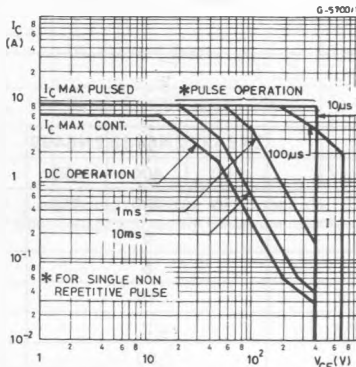
$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	1.56	°C/W
------------------	----------------------------------	-----	------	------

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
$I_{CEV}$	Collector-cutoff Current ( $V_{BE} = -1.5V$ )	for <b>2N6497</b> $V_{CE} = 350V$ $V_{CE} = 175V$ $T_{case} = 100^{\circ}C$			1 10	mA mA	
		for <b>2N6498</b> $V_{CE} = 400V$ $V_{CE} = 200V$ $T_{case} = 100^{\circ}C$			1 10	mA mA	
		for <b>2N6499</b> $V_{CE} = 450V$ $V_{CE} = 225V$ $T_{case} = 100^{\circ}C$			1 10	mA mA	
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 6V$			1	mA	
$V_{CEO(sus)}$	Collector-emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 25mA$	for <b>2N6497</b> for <b>2N6498</b> for <b>2N6499</b>	250 300 350		V V V	
$h_{FE}^*$	DC Current Gain	$I_C = 2.5A$ $I_C = 5A$	$V_{CE} = 10V$ $V_{CE} = 10V$	10 3	75		
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 2.5A$	$I_B = 0.5A$ for <b>2N6497</b> for <b>2N6498</b> for <b>2N6499</b>		1 1.25 1.5	V V V	
		$I_C = 5A$	$I_B = 2A$ all types		5	V	
$t_{on}$	Turn-on Time	$I_C = 2.5A$ $I_{B2} = -1A$	$I_{B1} = 0.5A$ $V_{CC} = 125V$		0.8	$\mu s$	
$t_s$	Storage Time	$I_C = 2.5A$ $I_{B2} = -1A$	$I_{B1} = 0.5A$ $V_{CC} = 125V$		1.8	$\mu s$	
$t_f$	Fall Time	$I_C = 2.5A$ $I_{B2} = -1A$	$I_{B1} = 0.5A$ $V_{CC} = 125V$		0.8	$\mu s$	

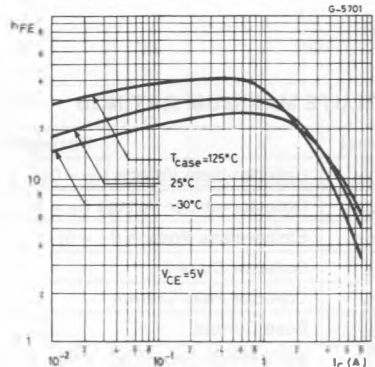
\* Pulsed : pulse duration = 300 $\mu s$ , duty cycle = 1.5%.

**Safe Operating Areas.**

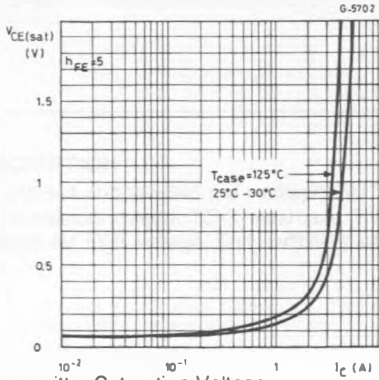


I-Area of permissible operation during turn-on provided  $R_{BE} \leq 100\Omega$  and  $t_p \leq 0.25\mu s$

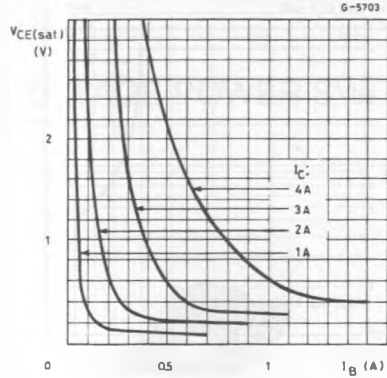
**DC Current Gain.**



Collector-emitter Saturation Voltage

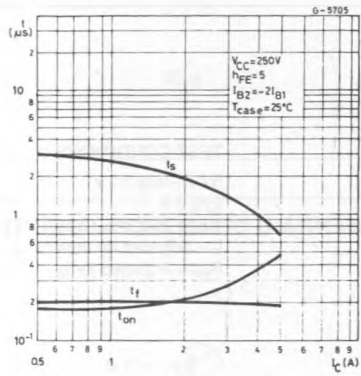
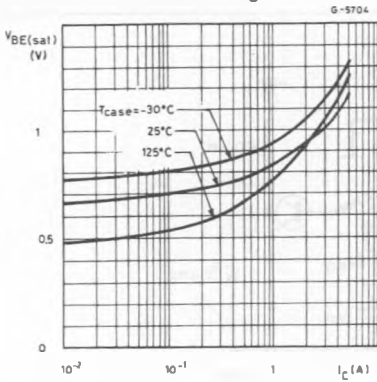


Collector-emitter Saturation Voltage.



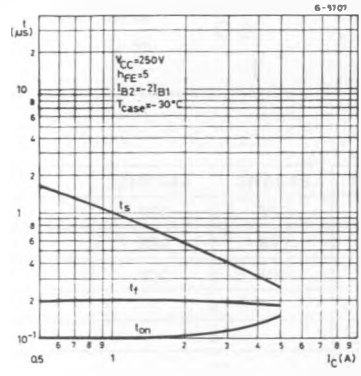
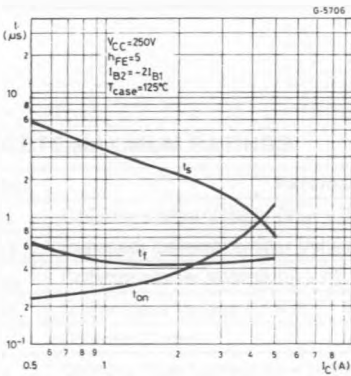
Base-emitter Saturation Voltage.

Saturated Switching Characteristics.



Saturated Switching Characteristics.

Saturated Swit-



Clamped Reverse bias Safe Operating Areas.

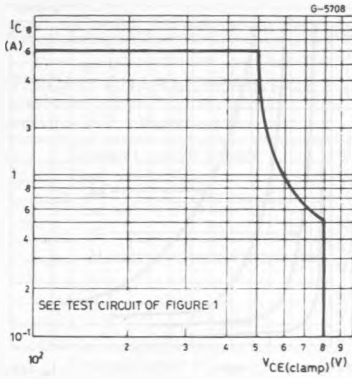


Figure 1 : Clamped Es/b Test Circuit.

