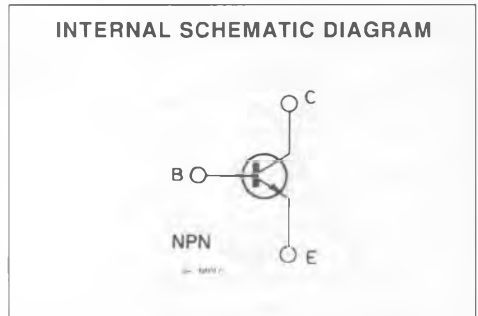
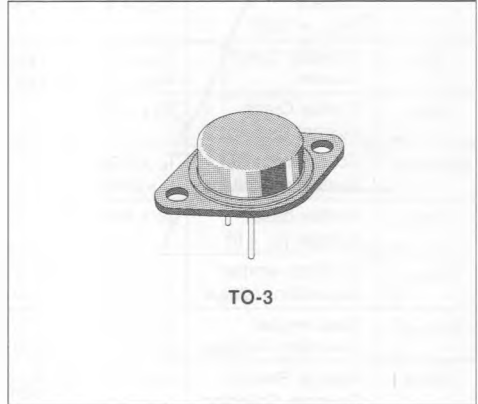


**FAST SWITCHING POWER TRANSISTOR**

- FAST SWITCHING TIMES
- LOW SWITCHING LOSSES
- LOW BASE CURRENT REQUIREMENTS
- VERY LOW SATURATION VOLTAGE AND HIGH GAIN



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CEV}$	Collector-emitter Voltage ( $V_{BE} = -1.5V$ )	400	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	300	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	7	V
$I_C$	Collector Current	20	A
$I_{CM}$	Collector Peak Current	30	A
$I_B$	Base Current	4	A
$I_{BM}$	Base Peak Current	6	A
$P_{Tot}$	Total Dissipation at $T_c < 25^\circ C$	150	W
$T_{stg}$	Storage Temperature	- 65 to 200	$^\circ C$
$T_J$	Max. Operating Junction Temperature	200	$^\circ C$

**THERMAL DATA**

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.17	-
----------------	----------------------------------	-----	------	---

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CEr}$	Collector Cutoff Current ( $R_{BE} = 10\Omega$ )	$V_{CE} = V_{CEV}$ $V_{CE} = V_{CEV}$ $T_c = 100^{\circ}C$			0.5 2.5	mA mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE} = V_{CEV}$ $V_{BE} = -1.5V$ $V_{OE} = V_{CEV}$ $V_{BE} = -1.5V$ $T_c = 100^{\circ}C$			0.5 2	mA mA
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 5V$			1	mA
$V_{CEO(sus)}^*$	Collector Emitter Sustaining Voltage	$I_C = 0.2A$ $L = 25mH$	300			V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	$I_E = 50mA$	7			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 7A$ $I_B = 0.7A$ $I_C = 7A$ $I_B = 0.7A$ $T_j = 100^{\circ}C$			0.9 1.9	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 7A$ $I_B = 0.7A$ $I_C = 7A$ $I_B = 0.7A$ $T_j = 100^{\circ}C$			1.3 1.3	V V
$di_c/dt$	Rate of Rise of On-state Collector Current	$V_{CC} = 250V$ $R_C = 0$ $t_p = 3\mu s$ See fig. 1	40			A/ $\mu s$

**INDUCTIVE LOAD**

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_s$	Storage Time	$V_{CC} = 250V$ $V_{clamp} = 300V$ $I_C = 7A$ $I_B = 0.7A$			3	$\mu s$
$t_f$	Fall Time	$V_{BB} = -5V$ $R_{B2} = 3.6\Omega$ $L_C = 1.8mH$ $T_j = 100^{\circ}C$			0.4	$\mu s$
$t_c$	Crossover Time	see fig. 2			0.7	$\mu s$
$V_{CEW}$	Maximum Collector Emitter Voltage without Snubber	$V_{CC} = 50V$ $I_{CWoff} = 10A$ $V_{BB} = -5V$ $I_{B1} = 0.7A$ $L_C = 0.25mH$ $R_{BB} = 3.6\Omega$ $T_j = 125^{\circ}C$ See fig. 2	300			V

Figure 1 : Turn-on Switching Characteristics of the Transistor.

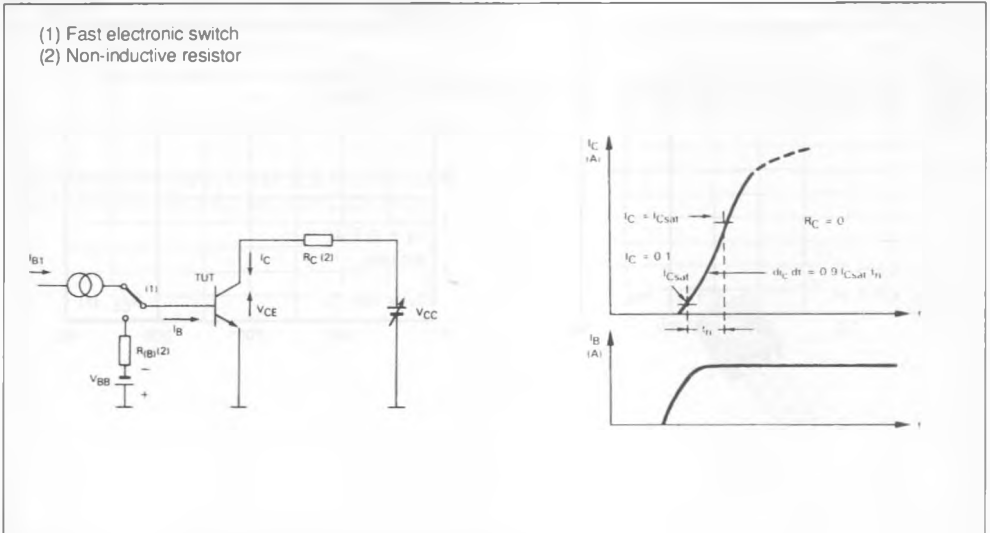
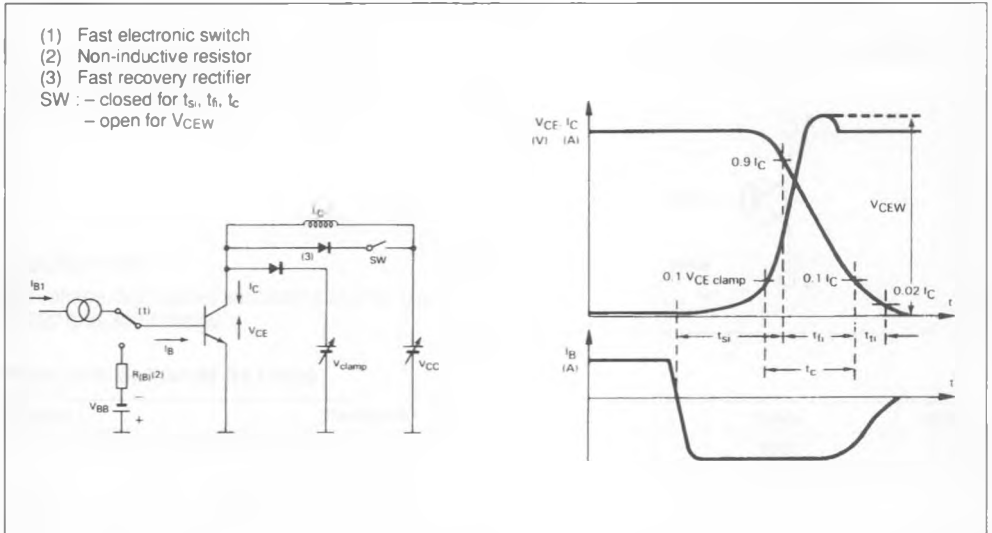
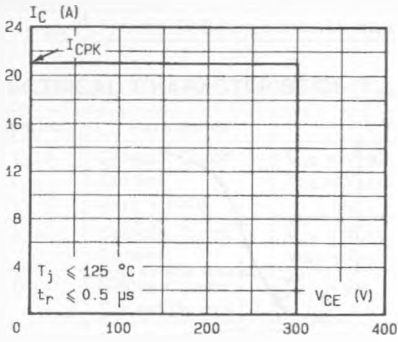


Figure 2 : Turn-off Switching Characteristics of the Transistor.



Forward Biased Safe Operating Area (FBSOA).



Reverse Biased Safe Operating Area (RBSOA).

