

T-33-35

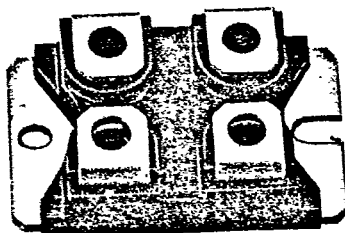
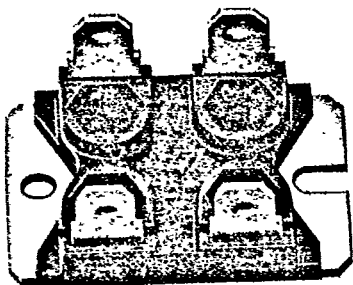
NPN Silicon Tripleton Power Transistor

- Applications:**
- Motor-control (380 V-mains)
 - UPS (Uninterruptible power supplies)
 - High power SMPS (≥ 1000 W)
 - Battery chargers
 - Welding equipments
 - Inductive heating equipment

Features:

- High reverse voltage
- Short switching times
- Very fast C-E-free-wheel diode
- Base 1 and base 2 connectable
- Triple diffusion technique
- Glass passivation

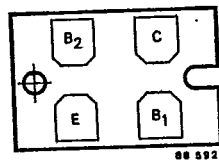
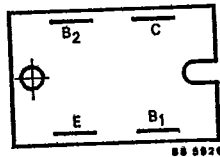
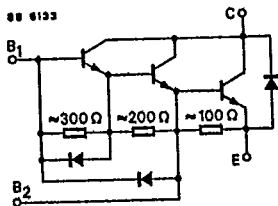
Case variations



TFK 3080 D

TFK 3080 DA

Terminal connections



T1.2/1997.0888 E

TFK 3080 D

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Absolute maximum ratings

Collector-emitter voltage	V_{CEO}	1000	V
	V_{CES}	1000	V
Emitter-base voltage	V_{EBO}	8	V
Collector current	I_C	30	A
Collector peak current	I_{CM}	60	A
Base current	I_B	2	A
Base peak current	I_{BM}	4	A
Total power dissipation $T_{case} \leq 25^\circ C$	P_{tot}	275	W
Junction temperature	T_J	150	$^\circ C$
Storage temperature range	T_{stg}	-40...+150	$^\circ C$
Insulation voltage	V_{is}	2500	V

Maximum thermal resistances

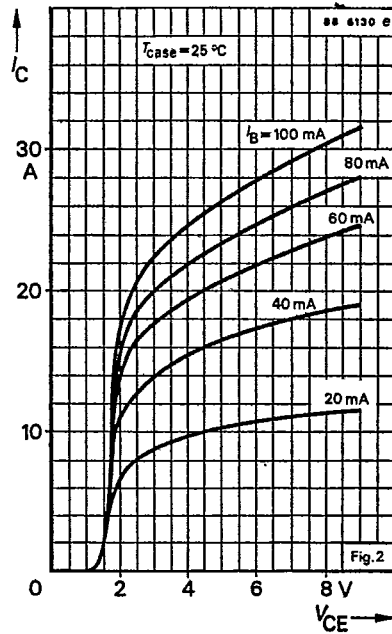
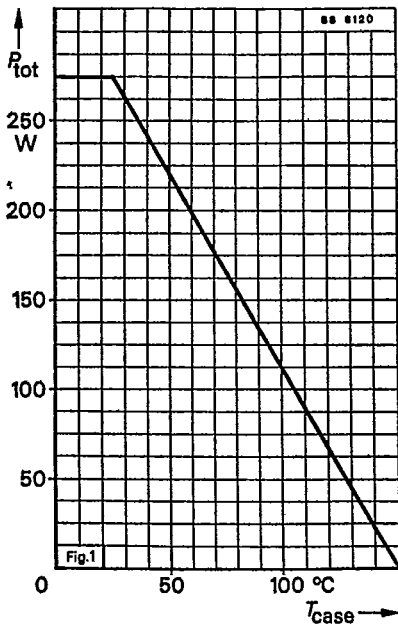
Junction case			
Power transistor	R_{thJC}	0.45	K/W
Free-wheel diode	R_{thJC}	1.5	K/W

Characteristics

 $T_{case} = 25^\circ C$, unless otherwise specified

		Min.	Typ.	Max.
Collector cut-off current $V_{CE} = 1000 V$ $V_{CE} = 1000 V$	I_{CES} I_{CED}			1.0 mA 1.0 mA
Emitter cut-off current $V_{EB} = 8 V$	I_{EBO}			200 mA
Collector-emitter breakdown voltage $I_C = 1 A, L = 125 mH$	$V_{(BR)CEO}$	1000		V
Emitter-base breakdown voltage $I_E = 0,5 A$	$V_{(BR)EBO}$	8		V
Collector saturation voltage $I_C = 30 A, I_B = 0.6 A$	V_{CEsat}			2.5 V
Base saturation voltage $I_C = 30 A, I_B = 0.6 A$	V_{BEsat}			3.5 V

	Min.	Typ.	Max.
Collector-emitter working voltage $I_{C\text{Woff}} = 48 \text{ A}, I_{B1} = 1.4 \text{ A}, -I_{B2} = 2 \text{ A}$	V_{CEW}	800	V
Forward voltage of the diode $I_F = 30 \text{ A}$	V_F		1.8 V
Switching characteristics			
Inductive load, $T_{\text{case}} = 100 \text{ }^\circ\text{C}$			
$I_C = 30 \text{ A}, I_{B1} = 0.6 \text{ A}, -I_{B2} = 2 \text{ A}$			
Storage time	t_s		15 μs
Fall time	t_f		3 μs



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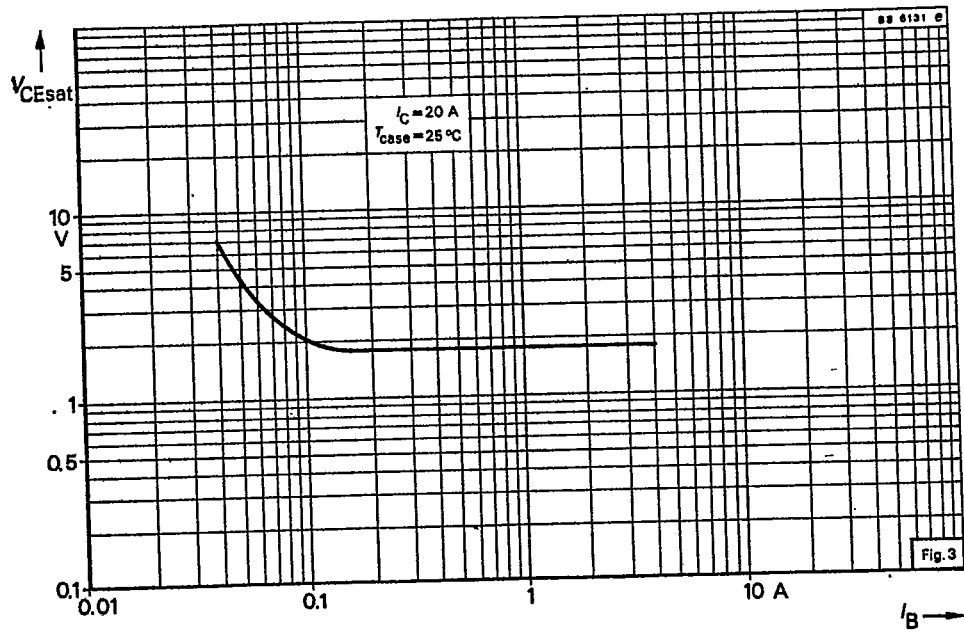


Fig.3

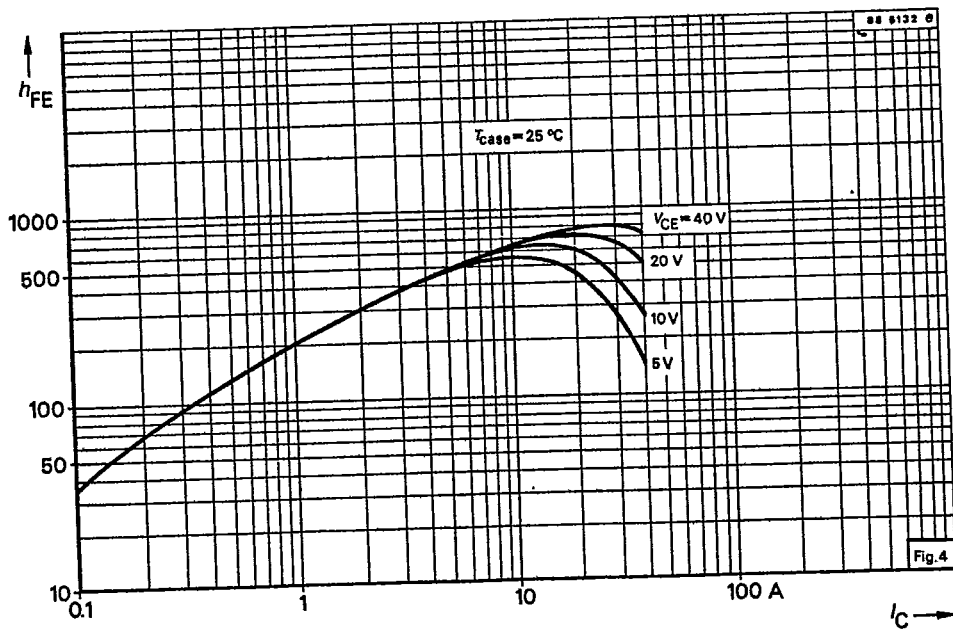


Fig.4

