

T-33-35

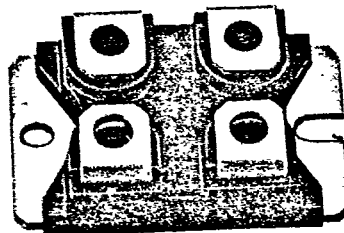
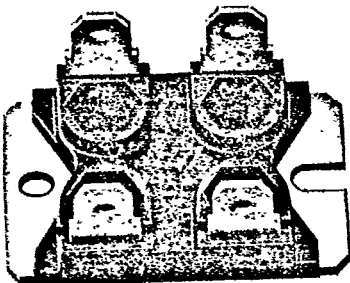
NPN Silicon Triplet Power Transistor

- 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

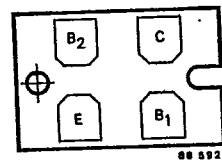
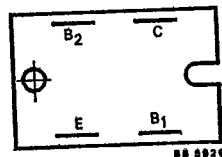
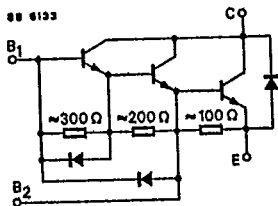
Case variations



TFK 3080 D

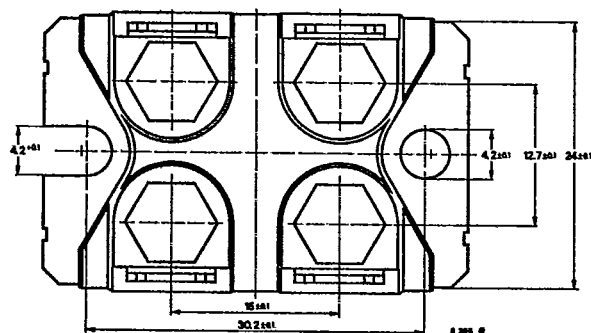
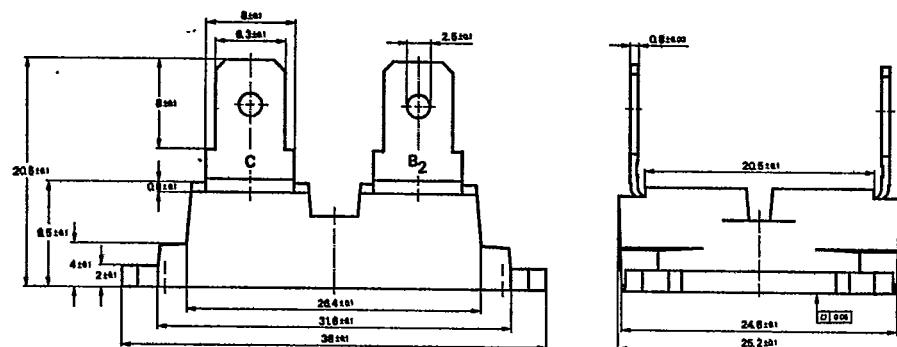
TFK 3080 DA

Terminal connections

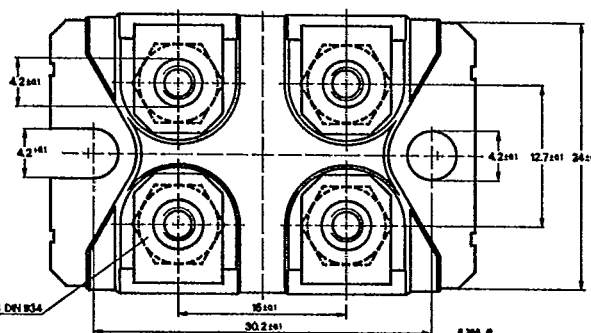
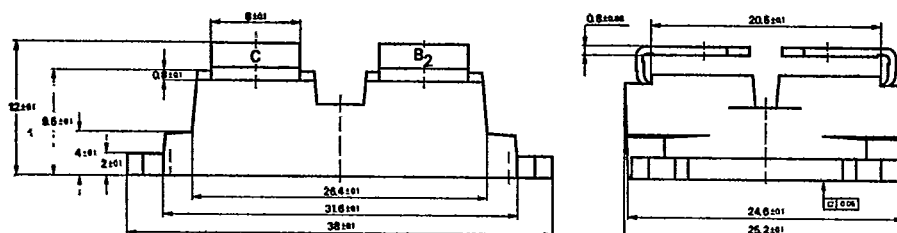


T1.2/1997.0888 E

Dimensions in mm



TFK 3080D



TFK 3080 DA

Plastic case
Weight max. 30.0 g

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 $T_{case} \leq 25^\circ\text{C}$	P_{tot}	275	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40...+150	$^\circ\text{C}$
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

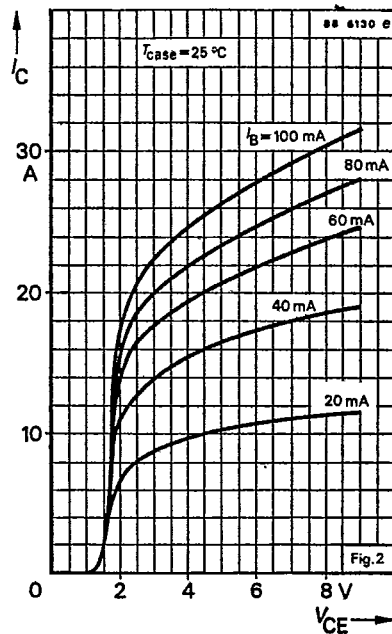
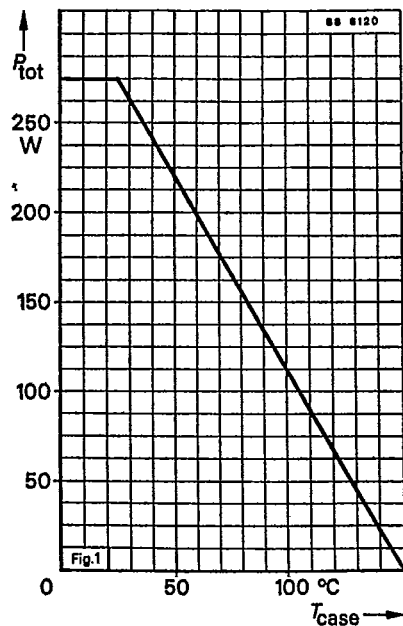
Min. Typ. Max.

Characteristics

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

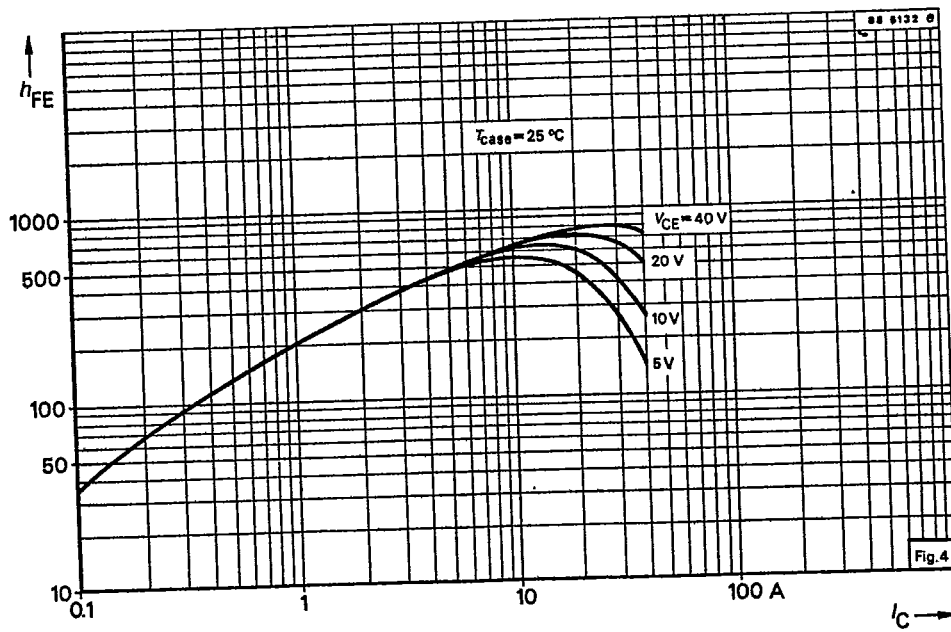
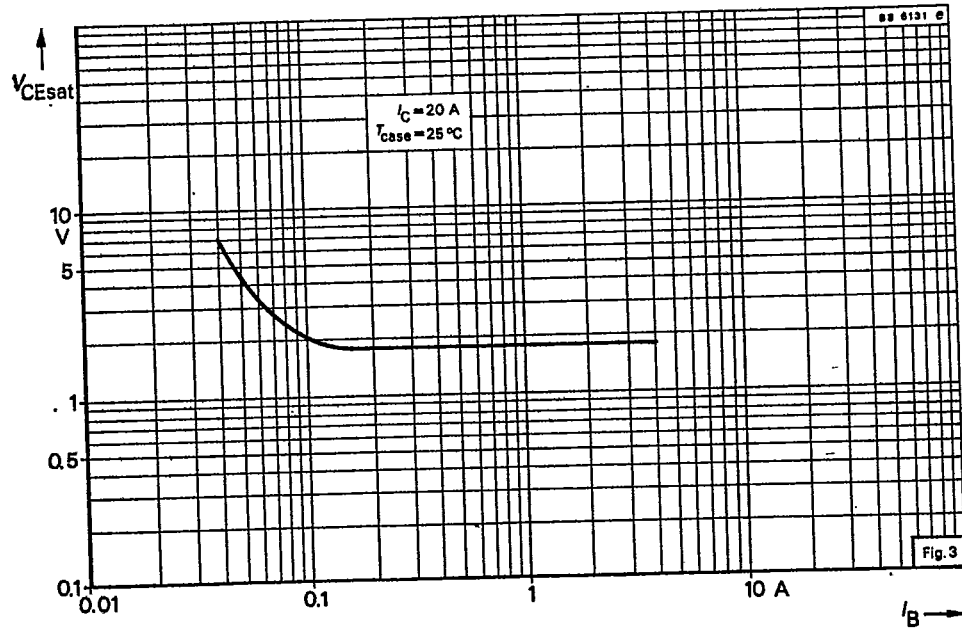
Collector cut-off current $V_{CE} = 1000\text{ V}$ $V_{CE} = 1000\text{ V}$	I_{CES} I_{CEO}		1.0 mA 1.0 mA
Emitter cut-off current $V_{EB} = 8\text{ V}$	I_{EBO}		200 mA
Collector-emitter breakdown voltage $I_C = 1\text{ A}$, $L = 125\text{ mH}$	$V_{(BR)CEO}$	1000	V
Emitter-base breakdown voltage $I_E = 0.5\text{ A}$	$V_{(BR)EBO}$	8	V
Collector saturation voltage $I_C = 30\text{ A}$, $I_B = 0.6\text{ A}$	V_{CEsat}		2.5 V
Base saturation voltage $I_C = 30\text{ A}$, $I_B = 0.6\text{ A}$	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, $T_{\text{case}} = 100^\circ\text{C}$			
$I_C = 30 \text{ A}, I_{B1} = 0.6 \text{ A}, -I_{B2} = 2 \text{ A}$			
Storage time	t_s		15 μs
Fall time	t_f		3 μs



TFK 3080 D

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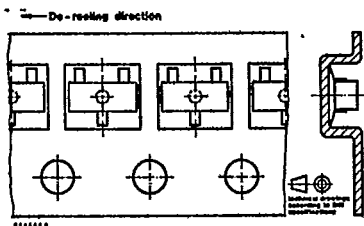


Fig. 7.4 Standard taped SOT 23

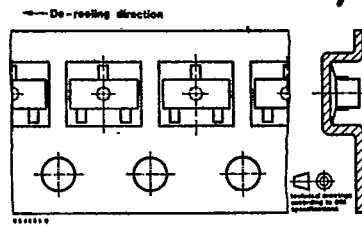


Fig. 7.6 Reverse taped SOT 23

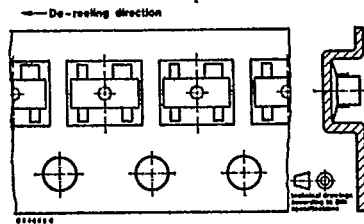


Fig. 7.5 Standard taped SOT 143

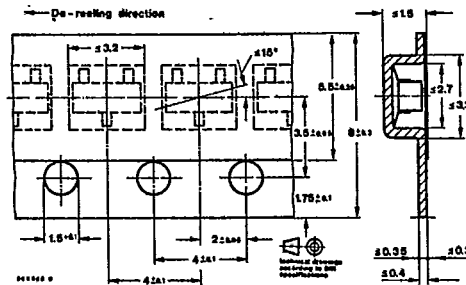


Fig. 7.7 Dimensions of tape in mm

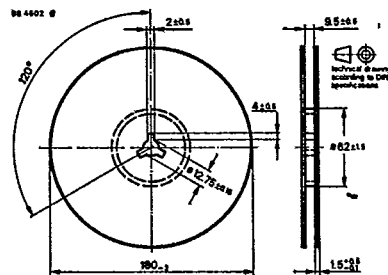


Fig. 7.8 Dimensions of reel in mm

8. Assessories

Number	Fig.	Designation	For case
119880	8.1.	Isolating washer thickness 80 µm	12A 3 DIN 41 869 JEDEC TO 126 (SOT 32)
564542	8.2.	Isolating washer thickness 50 µm	14A 3 DIN 41 869 JEDEC TO 220 (SOT 78)
912884	8.3	Isolating washer thickness 50 µm	15A 3 DIN 41 869 (TOP3) for clip mounting
191 131	8.4	Isolating washer thickness 50 µm	15A 3 DIN 41 869 (TOP3) for screw mounting
191 140	8.5	Mounting clip	15A 3 DIN 41 869 (TOP3)
569524	8.6	Isolating washer thickness 100 µm + 50 µm	3B 2 DIN 41 872 JEDEC TO 3 Devices with high reverse voltage