



TSD40N50DF
TSD40N50DV

S G S-THOMSON

N - CHANNEL ENHANCEMENT MODE
FREDFET MODULE

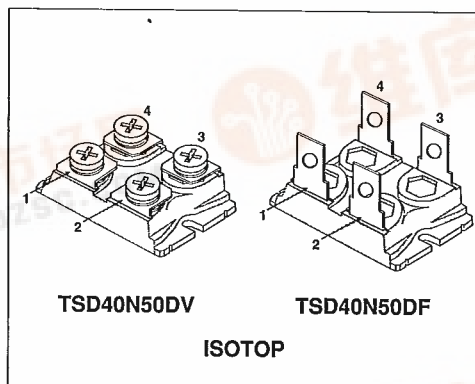
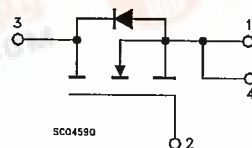
TENTATIVE DATA

TYPE	V _{DS}	R _{DS(on)}	I _D
TSD40N50DF/DV	500 V	0.12 Ω	40 A

- POWER MOS TRANSISTOR MODULE WITH FAST RECOVERY BULK DIODE: $t_{rr} < 300$ ns @ $T_j = 150$ °C
- HIGH CURRENT POWER MOS MODULE
- SPECIFIED COMMUTATING SOA
- PARTICULARLY SUITABLE FOR BRIDGE CONFIGURATION
- AVALANCHE RUGGEDNESS TECHNOLOGY
- VERY LOW R_{th} JUNCTION TO CASE
- ISOLATED CASE (2500V RMS)
- EASY TO MOUNT
- LOW INTERNAL PARASITIC INDUCTANCE (TYPICALLY 5nH)

INDUSTRIAL APPLICATIONS:

- SMPS & UPS
- MOTOR CONTROL
- WELDING EQUIPMENT

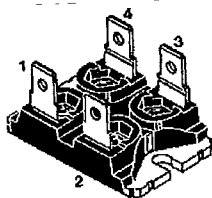
**INTERNAL SCHEMATIC DIAGRAM****ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V _{DS}	Drain-Source Voltage ($V_{GS} = 0$)	500	V
V _{DGR}	Drain-Gate Voltage ($R_{GS} = 20$ k Ω)	500	V
V _{GS}	Gate-Source Voltage	± 20	V
I _D	Drain Current (continuous) at $T_c = 25$ °C	40	A
I _D	Drain Current (continuous) at $T_c = 100$ °C	24	A
I _{DM} (*)	Drain Current (pulsed)	160	A
P _{tot}	Total Dissipation at $T_c = 25$ °C	500	W
	Derating Factor	4	W/°C
T _{stg}	Storage Temperature	-55 to 150	°C
T _j	Max. Operating Junction Temperature	150	°C
V _{iso}	Insulation Withstand Voltage (AC)	2500	V

(*) Pulse width limited by safe operating area

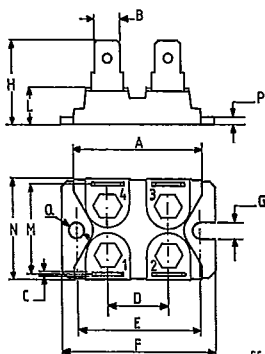
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T-91-20



ISOTOP
Fast-on version
sales types with the suffix F

MECHANICAL DATA



FC-0309

	DIMENSIONS			
	mm		Inches	
	min.	max	min.	max
A	31.5	31.7	1.240	1.248
B	6.2	6.4	0.244	0.252
C	0.75	0.85	0.029	0.033
D	14.9	15.1	0.586	0.590
E	30.1	30.3	1.185	1.193
F	38	38.2	1.496	1.503
G	4	—	0.157	—
H	20.3	20.7	0.799	0.815
L	8.9	9.1	0.350	0.358
M	22.4	23	0.881	0.905
N	25.2	25.4	0.992	1.000
P	1.95	2.05	0.076	0.080
Q	4	—	0.157	—

PIN CONNECTIONS

MOSFET

pin 1: Source pin 2: Gate
pin 3: Drain pin 4: Source sensings

DARLINGTON

pin 1: Emitter pin 2: Base1
pin 3: Collector pin 4: Base 2

TRANSISTOR

pin 1: Emitter pin 2: Base
pin 3: Collector pin 4: Emitter sensing

Torque: Mounting $1.3 \pm 0.2 \text{ N} \cdot \text{m}$ (max)

Weight: Package 25.5 g

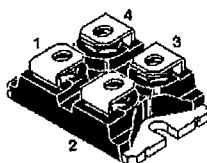
Note: The mechanical data are the same for the 3 pin version
(4th pin missing)

PACKAGES

30E D ■ 7929237 0030781 2 ■

S G S-THOMSON

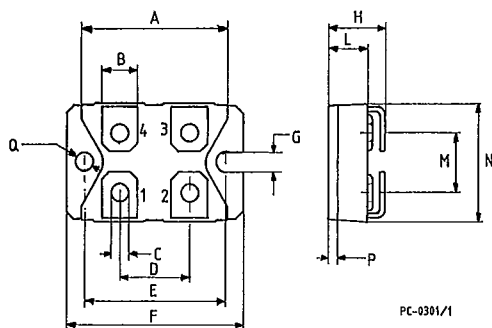
T-91-20



ISOTOP
Screw version

sales types with the suffix V

MECHANICAL DATA



PC-0301/1

	DIMENSIONS			
	mm		Inches	
	min.	max	min.	max
A	31.5	31.7	1.240	1.248
B	7.8	8.2	0.307	0.322
C	4.1	4.3	0.161	0.169
D	14.9	15.1	0.586	0.590
E	30.1	30.3	1.185	1.193
F	38	38.2	1.496	1.503
G	4	—	0.157	—
H	11.8	12.2	0.464	0.480
L	8.9	9.1	0.350	0.358
M	12.6	12.8	0.496	0.503
N	25.2	25.4	0.992	1.000
P	1.95	2.05	0.076	0.080
Q	4	—	0.157	—

PIN CONNECTIONS

MOSFET

pin 1: Source pin 2: Gate
pin 3: Drain pin 4: Source sensings

DARLINGTON

pin 1: Emitter pin 2: Base1
pin 3: Collector pin 4: Base 2

TRANSISTOR

pin 1: Emitter pin 2: Base
pin 3: Collector pin 4: Emitter sensing

Torque: Terminal $1.3 \pm 0.2 \text{ N} \cdot \text{m}$ (max)
Mounting $1.3 \pm 0.2 \text{ N} \cdot \text{m}$ (max)

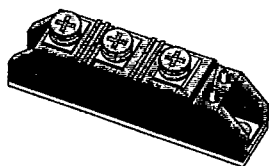
Weight: Package 29 g
4 Screws: 7.5 g

Note: The mechanical data are the same for the 3 pin version
(4th pin missing)

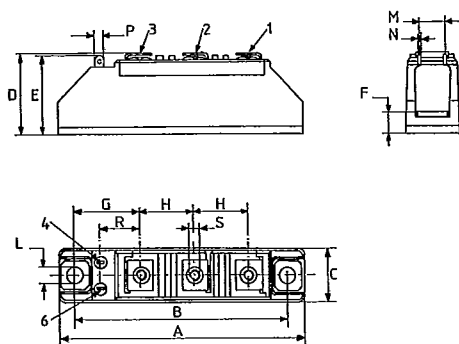
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T-91-20

TRANSPACK (TO-240)



MECHANICAL DATA



PC-0276

Torque: Terminal $2.2 \pm 0.5 \text{ N} \cdot \text{m}$ (max)
 Mounting $3.5 \pm 0.5 \text{ N} \cdot \text{m}$ (max)

Weight: Package 110 g
 Accessory 21 g

Note: The mechanical data are the same for the 2 power pin version (either pin 1 or pin 2 missing)

	DIMENSIONS			
	mm		Inches	
	min.	max	min.	max
A	91.5	92.5	3.602	3.641
B	79.75	80.25	3.140	3.160
C	19.5	20.55	0.767	0.809
D	29.00	31.00	1.141	1.220
E	28.8	30	1.134	1.181
F	8.5 typ.		0.334 typ.	
G	24.4 typ.		0.960 typ.	
H	19.5	20.5	0.767	0.807
L	6.2 typ.		0.244 typ.	
M	8.95	11.05	0.352	0.435
N	0.78	0.84	0.030	0.033
P	2.72	2.87	0.107	0.113
R	14	—	0.551	—
S	M5			