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1. PCN basic data

1.1 Company		LEM International SA Route du Nant d'Avril 152 1217 Meyrin Switzerland	
1.2 PCN No.	PCN-026 2026 0-OMTB2610601		
1.3 Title of PCN	Alternative components + 4 vias removing		
1.4 Product Category	Electronic module - Current sensor		
1.5 Issue date	2026/05/05		
1.6 PCN revision history (optional)	1.7 Issue date of previous revision (optional)	1.8 Delta to previous revision (optional)	

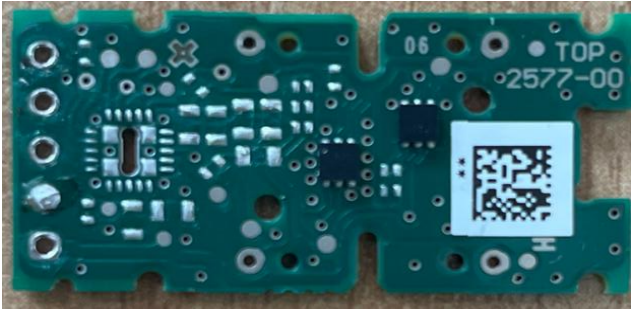
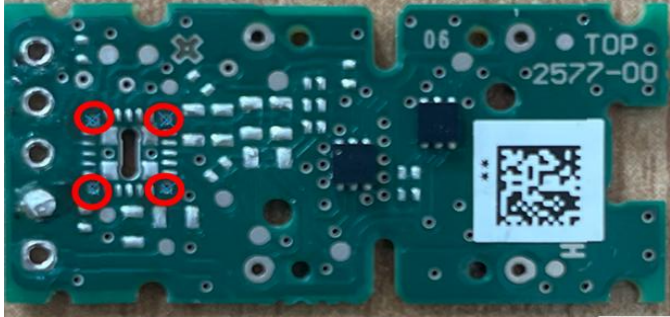
Form provided by ZVEI - Revision 5.0

2. PCN Team

2.1 Contact supplier		
2.1.1 Name	Saravanakkumar Arumugam - Product Life Cycle Coordinator	
2.1.2 Phone		
2.1.3 Email	Srm@lem.com	
2.2 Team supplier (optional)		
2.2.1 Name (optional)	2.2.2 Phone (optional)	2.2.3 Email (optional)
Stéphane Rollier - Product Life Cycle manager	0041227061449	sro@lem.com

3. Changes			
No.	3.0 Ident	3.1 Category	3.2 Type of change
#1	SEM-DE-02	DESIGN	Design changes in routing .
#2	SEM-PA-16	PROCESS - ASSEMBLY	Change of direct material supplier

4. Description of change

	Old	New
Change #1		4 vias removing on PCB 
Change #2	Nexperia PBSS5130PAP,115: ☐ Bipolar (BJT) Transistor Array 2 PNP (Dual) 30V 1A 125MHz 510mW Surface Mount 6-HUSON (2x2) Nexperia PBSS4130PAN,115: Bipolar (BJT) Transistor Array 2 NPN (Dual) 30V 1A 165MHz 510mW Surface Mount 6-HUSON (2x2)	Alternatives: LRC S-LBTPS180DT2AG: 80V,1A PNP low VCE(sat) transistor LRC S-LBTNS180DT2AG: 80V,1A NPN low VCE(sat) transistor

4.1 Anticipated impact on form, fit, function, reliability or processability?	New components alternatives. Data sheets of current and future components as enclosed (files called "S-LBTNS180DT2AG LRC transistor" & "S-LBTPS180DT2AG LRC transistor"). Qualification tests will be produced to ensure performances, as per the file called "Tests plan Nexperia alternatives+4 vias removing". Removing these 4 small vias on the PCB have absolutely no influence on the product performances, that's really a small non influence change. No impact on form, fit, function, reliability, data sheet, process, quality and product safety.
4.2 Reference parts with customer number (optional)	

5. Reason / motivation for change	
5.1 Motivation	Change 1: Simplification of the PCB production. Change 2: To secure supply chain, avoid shortages on deliveries.
5.2 Additional explanation (optional)	

6. Marking of parts / traceability of change	
6.1 Description	No change in the marking of the parts. Traceability ensured by datecode.

7. Timing / schedule		
7.1 Date of qualification results	06/05/26	
7.2 Last order date (optional)		
7.3 Last delivery date (optional)		
7.4 Intended start of delivery	07/31/26	
7.5 Qualification samples available?	19th of June 2026	
7.6 Customer feedback required until	06/08/26	

8. Qualification / validation			
8.1 Description (e.g. qual. plan/report, AEC-Q...)	Qualification tests plan as per enclosed file called "Tests plan Nexperia alternatives+4 vias removing"		
8.2 Qualification report and qualification results	will be available at date 	issue date	06/05/26

9. Input to customer for risk assessment process

10. Attachments (e.g. new datasheet, additional documentation, pictures, process flow, sample plan, ...)

11. Affected parts									
11.1 Current						11.2 New (if applicable)			
11.1.1 Customer Part No.	11.1.2 Supplier Part Name	11.1.3 Supplier Part No. (optional)	11.1.4 Package Name	11.1.5 Part Description (optional)	11.1.6 Additional Part Information (optional)	11.2.2 Supplier Part Name	11.2.3 Supplier Part No. (optional)	11.2.4 Package Name	11.2.6 Additional Part Information (optional)
	LZSR 150-TP/SP2								
	LZSR 150-P								
	LZSR 150-P/SP1								
	LZSR 80-P								
	LZSR 150-P/SP2								
	LZSR 200-TP/SP1								
	LZSR 250-P/SP1								
	LZSR 250-P/SP3								

[illegible]

Customer Feedback/Approval Form

Form provided by ZVEI - Revision 5.0

Title of PCN:			
Alternative components + 4 vias removing			
Customer PCN No.		Supplier PCN No.	PCN-026_2026_0-OMTB2610601
Please check the appropriate box below:			

1. feedback to be provided within 3 weeks after the reception of the PCN.

☐	1. Feedback	date:	
☐	We agree with this proposed change for the parts as listed in chapter '11. Affected parts'. Approval letter will be sent in written form.		
☐	We agree with this proposed change schedule and will start with the PCN process. Approval letter will be sent in written form after evaluation.		
☐	We disapprove because:		
☐	Remark:		

2. feedback to be provided within 6 weeks after the reception of the PCN.

☐	2. Feedback	date:	
☐	We acknowledge qualification / validation as assigned in chapter 8 of the PCN.		
☐	We need more information:		
☐	We need the following samples:		
☐	Estimated closing date for PCN:		

☐	Final Feedback/Approval	date:	

Sender:	
Company:	
Name:	
Address/Location:	
Signature:	
Date:	

Please return to: [your Sales partner]	
Name:	Saravanakkumar Arumugam - Product Life Cycle Coordinator
Address/Location:	
Phone:	
Fax:	
Email:	Srm@lem.com

In case LEM does not receive any feedback within 6 weeks at the latest after PCN notification, LEM will assume:

- Customer acceptance to the change
- No need for samples
- No additional need

1. feedback to be provided within 3 weeks after the reception of the PCN.
2. feedback to be provided within 6 weeks after the reception of the PCN.

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Based on the JEDEC Standard JESD46 standard (latest release)

S-LBTNS180DT2AG

80V,1A NPN low VCE(sat) transistor

1. FEATURES

- High current.
- High power dissipation capability.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. APPLICATIONS

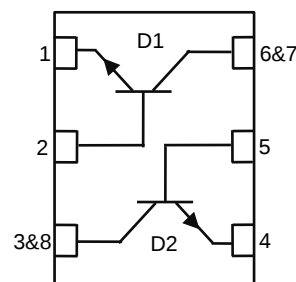
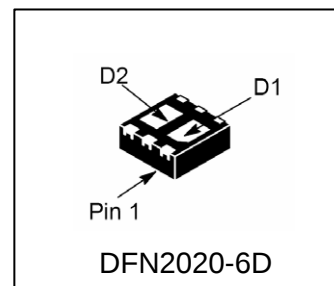
- Linear voltage regulators
- Low-side switches
- Battery-driven devices
- Power management
- MOSFET drivers
- Amplifiers

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LBTNS180DT2AG	NS18	5000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	80	V
Collector–Base Voltage	VCBO	100	V
Emitter–Base Voltage	VEBO	5	V
Collector Current	IC	1	A
Peak collector current(tp≤1 ms)	ICM	2	A
Base current	IB	0.3	A
Peak base current(tp≤1 ms)	IBM	0.3	A
Junction temperature	Tj	–55~+150	°C
Storage temperature	Tstg	–55~+150	°C



5. THERMAL CHARACTERISTICS

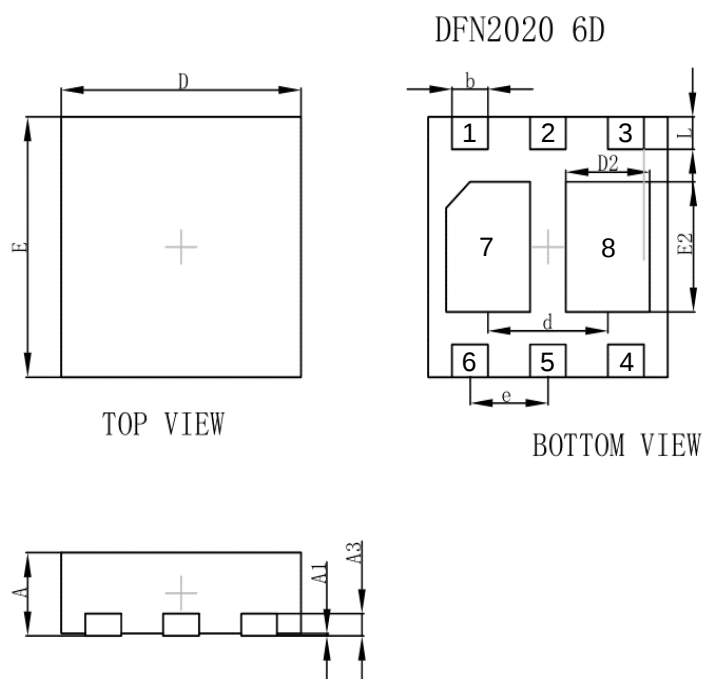
Parameter	Symbol	Limits	Unit
Maximum Power Dissipation	PD	1.4	W
Thermal Resistance, Junction-to-Ambient(Note 1)	ROJA	140	°C/W

1. 1-in² 2oz Cu PCB board.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

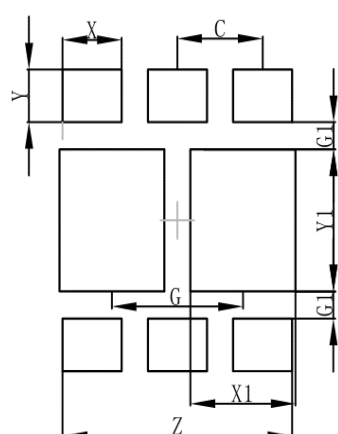
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage (IC = 1 mA, IB = 0)	VBR(CEO)	80	-	-	V
Collector-Base Breakdown Voltage (IC = 100 μA, IE = 0)	VBR(CBO)	100	-	-	V
Emitter-Base Breakdown Voltage (IE = 100 μA, IC = 0)	VBR(EBO)	5	-	-	V
Collector Cutoff Current (VCB = 30 V, IE = 0 A) (VCB = 30 V, IE = 0 A, Tj = 150°C)	ICBO	-	-	100 10	nA μA
Emitter Cut-off Current (VEB = 5V, IC = 0)	IEBO	-	-	100	nA
Collector-Emitter cutoff Current (VCE = 80V, IB = 0)	ICEO	-	-	10	μA
DC Current Gain (VCE = 2 V, IC = 5 mA) (VCE = 2 V, IC = 150 mA) (VCE = 2 V, IC = 500 mA)	HFE	63 100 45	- - -	- 250 -	
Collector-Emitter Saturation Voltage (IC = 500 mA, IB = 50 mA)	VCE(sat)	-	-	500	mV
Base-Emitter voltage (VCE = 2 V, IC = 500 mA)	VBE	-	-	1	V
Transition Frequency (VCE = 5 V, IC = 50 mA, f = 100 MHz)	fT	100	180	-	MHz
Collector Capacitance (VCB = 10 V, IE = 0 A, f = 1 MHz)	Cc	-	6	-	pF

7.OUTLINE AND DIMENSIONS



DFN2020-6D			
Dim	Min	Typ	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	-	0.65	-
L	0.20	0.25	0.30
b	0.25	0.30	0.35
d	-	1.00	-
A	0.60	0.65	0.70
A1	0.00	0.02	0.05
A3	-	0.152	-
E2	0.95	1.00	1.05
D2	0.65	0.70	0.75
All Dimensions in mm			

8.SOLDERING FOOTPRINT



Dimensions	(mm)
X	0.45
Y	0.37
X1	0.80
Y1	1.00
C	0.65
G	1.00
G1	0.19
Z	1.75

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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S-LBTPS180DT2AG

80V,1A PNP low VCE(sat) transistor

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- High current.
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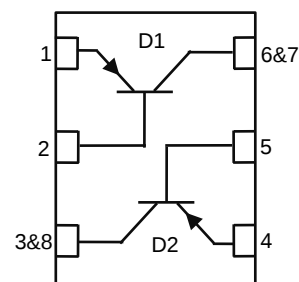
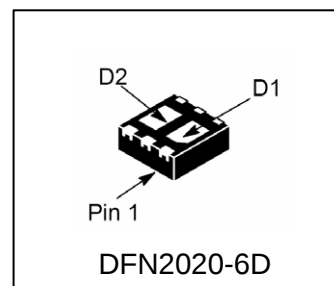
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4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	-80	V
Collector–Base Voltage	VCBO	-100	V
Emitter–Base Voltage	VEBO	-5	V
Collector Current(DC)	IC	-1	A
Peak collector current	ICM	-1.5	A
Continuous base current	IB	-100	mA
Peak base current	IBM	-200	mA
Junction temperature	Tj	-55~+150	°C
Storage temperature	Tstg	-55~+150	°C



5. THERMAL CHARACTERISTICS

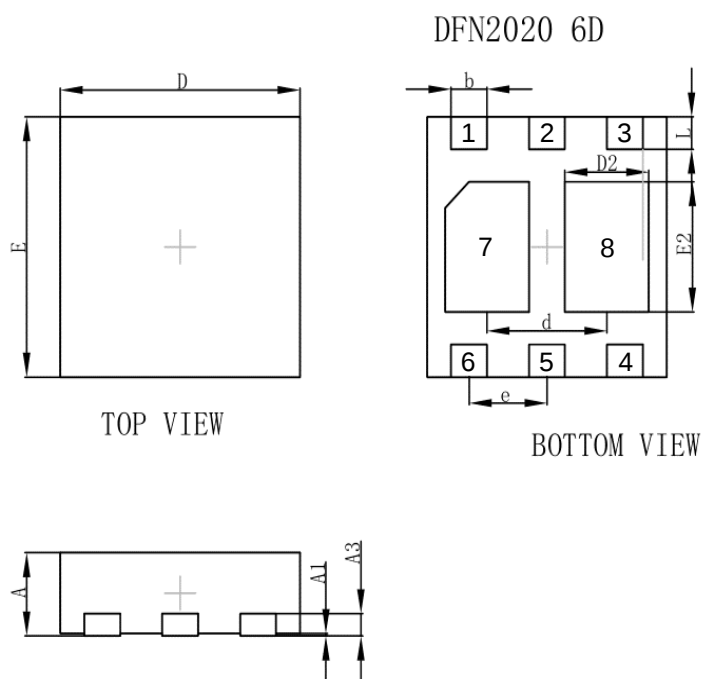
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Maximum Power Dissipation	PD	1.4	W
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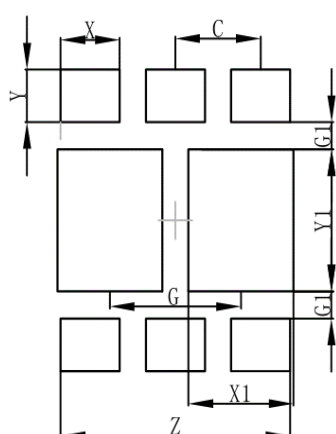
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage (IC = -1 mA, IB = 0)	VBR(CEO)	-80	-	-	V
Collector-Base Breakdown Voltage (IC = -100 μA, IE = 0)	VBR(CBO)	-100	-	-	V
Emitter-Base Breakdown Voltage (IE = -100 μA, IC = 0)	VBR(EBO)	-5	-	-	V
Collector Cutoff Current (VCB = -30 V, IE = 0) (VCB = -30 V, IE = 0, Tj = 125 °C)	ICBO	-	-	-100 -10	nA μA
Emitter Cut-off Current (VEB = -5V, IC = 0)	IEBO	-	-	-100	nA
Collector-Emitter cutoff Current (VCE = -80V, IB = 0)	ICEO	-	-	-10	μA
DC Current Gain (VCE = -2V, IC = -5mA) (VCE = -2V, IC = -150mA) (VCE = -2V, IC = -500mA)	HFE	40 100 45	- - -	- 250 -	
Collector-Emitter Saturation Voltage (IC = -500 mA, IB = -50 mA)	VCE(sat)	-	-	-500	mV
Base-emitter voltage (IC = -500 mA, VCE = -2 V)	VBE	-	-	-1	V
Transition Frequency (IC = -10 mA, VCE = -5 V, f = 100 MHz)	fT	-	50	-	MHz

7.OUTLINE AND DIMENSIONS



DFN2020-6D			
Dim	Min	Typ	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	-	0.65	-
L	0.20	0.25	0.30
b	0.25	0.30	0.35
d	-	1.00	-
A	0.60	0.65	0.70
A1	0.00	0.02	0.05
A3	-	0.152	-
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All Dimensions in mm			

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