

3-Level NPC Inverter Module

NXH600N105L7F5S1HG, NXH600N105L7F5P1HG

The NXH600N105L7F5S1HG/P1HG is a power module in F5BP containing an I-type neutral point clamped three-level inverter. The integrated field stop trench IGBTs and FRDs provide lower conduction and switching losses, enabling designers to achieve high efficiency, higher power and superior reliability.

Features

- I-type Neutral Point Clamped Three-level Inverter Module
- 1050 V Field Stop 7 IGBTs
- Low Inductive Layout
- Solder Pins & Press Fit Pins
- Integrated NTC Thermistor
- This Device is Pb-Free, Halide Free and is RoHS Compliant

Typical Applications

- Energy Storage System
- Solar Inverters

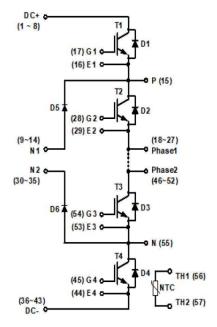
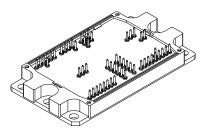
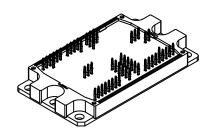


Figure 1. NXH600N105L7F5S1HG/P1HG Schematic Diagram

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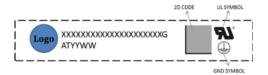


PIM57 112.00x62.00x12.00 (SOLDER PIN) CASE 180CX



PIM57 112.00x62.00x12.00 (PRESS FIT PIN) CASE 180JC

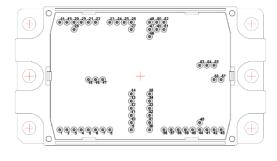
MARKING DIAGRAM



XXXXX = Device Code G = Pb-Free Package

AT = Assembly & Test Site Code YYWW = Year and Work Week Code

PIN CONNECTIONS



ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

MODULE CHARACTERISTICS

Operating Temperature under Switching Condition	T _{VJOP}	-40 to 150	°C
Storage Temperature Range	T _{stg}	-40 to 125	°C
Isolation Test Voltage, t = 2 s, 50 Hz (Note 1)	V _{is}	4800	V _{RMS}
Stray Inductance	L _{sCE}	15	nH
Terminal Connection Torque (M5, Screw)	М	3 to 5	Nm
Weight	G	245	g
Creepage Distance (Terminal to Heatsink)		17.46	mm
Creepage Distance (Terminal to Terminal)		6.48	mm
Clearance Distance (Terminal to Heatsink)		15.62	mm
Clearance Distance (Terminal to Terminal)		5.05	mm
Comparative Tracking Index	CTI	>600	

^{1. 4800} VAC $_{RMS}$ for 2 second duration is equivalent to 4000 VAC $_{RMS}$ for 1 minute duration.

ABSOLUTE MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
OUTER IGBT (T1, T4)	•		•
Collector-Emitter Voltage	V _{CES}	1050	V
Gate-Emitter Voltage Positive Transient Gate-Emitter Voltage (T_{pulse} = 5 μ s, D < 0.10)	V _{GE}	±20 30	V
Continuous Collector Current @ T _c = 80°C (T _J = 175°C)	I _C	429	Α
Pulsed Peak Collector Current @ Tc = 80°C (T _J = 175°C), T _{pulse} = 1 ms	I _{Cpulse}	1287	А
Power Dissipation (T _J = 175°C, Tc = 80°C)	P _{tot}	1080	W
Minimum Operating Junction Temperature	T _{JMIN}	-40	°C
Maximum Operating Junction Temperature	T _{JMAX}	175	°C
INNER IGBT (T2, T3)			
Collector-Emitter Voltage	V _{CES}	1050	V
Gate-Emitter Voltage Positive Transient Gate-Emitter Voltage (T_{pulse} = 5 μ s, D < 0.10)	V _{GE}	+20 30	V
Continuous Collector Current @ T _c = 80°C (T _J = 175°C)	I _C	429	А
Pulsed Peak Collector Current @ Tc = 80°C (T _J = 175°C), T _{pulse} = 1 ms	I _{Cpulse}	1287	Α
Power Dissipation (T _J = 175°C, Tc = 80°C)	P _{tot}	1080	W
Minimum Operating Junction Temperature	T _{JMIN}	-40	°C
Maximum Operating Junction Temperature	T _{JMAX}	175	°C
NEUTRAL POINT DIODE (D5, D6)			
Peak Repetitive Reverse Voltage	V_{RRM}	1050	V
Continuous Forward Current @ Tc = 80°C (T _J = 175°C)	I _F	186	А
Repetitive Peak Forward Current (T _J = 175°C), T _{pulse} = 1 ms	I _{FRM}	558	А
Maximum Power Dissipation @ Tc = 80°C (T _J = 175°C)	P _{tot}	475	W
Minimum Operating Junction Temperature	T _{JMIN}	-40	°C
Maximum Operating Junction Temperature	T _{JMAX}	175	°C
INVERSE DIODES (D1, D4)			
Peak Repetitive Reverse Voltage	V_{RRM}	1050	V
Continuous Forward Current @ Tc = 80°C (T _J = 175°C)	lF	278	Α
Repetitive Peak Forward Current (T _J = 175°C), T _{pulse} = 1 ms	I _{FRM}	834	А

ABSOLUTE MAXIMUM RATINGS ($T_J = 25^{\circ}C$ unless otherwise noted) (continued)

Parameter	Symbol	Value	Unit
INVERSE DIODES (D1, D4)	•		•
Maximum Power Dissipation @ Tc = 80°C (T _J = 175°C)	P _{tot}	766	W
Minimum Operating Junction Temperature	T _{JMIN}	-40	°C
Maximum Operating Junction Temperature	T _{JMAX}	175	°C
INVERSE DIODES (D2, D3)			
Peak Repetitive Reverse Voltage	V _{RRM}	1050	V
Continuous Forward Current @ Tc = 80°C (T _J = 175°C)	I _F	297	А
Repetitive Peak Forward Current (T _J = 175°C), T _{pulse} = 1 ms	I _{FRM}	891	А
Maximum Power Dissipation @ Tc = 80°C (T _J = 175°C)	P _{tot}	833	W
Minimum Operating Junction Temperature	T _{JMIN}	-40	°C
Maximum Operating Junction Temperature	T _{JMAX}	175	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted)

Parameter	Test Conditions	Symbol	Min	Тур	Max	Unit
OUTER IGBT (T1, T4)	•					
Collector-Emitter Cutoff Current	V _{GE} = 0 V, V _{CE} = 1050 V	I _{CES}	-	_	500	μΑ
Collector-Emitter Saturation Voltage	V _{GE} = 15 V, I _C = 600 A, T _J = 25°C	V _{CE(sat)}	-	1.6	2.3	V
	V _{GE} = 15 V, I _C = 600 A, T _J = 150°C		-	2.0	_	
Gate-Emitter Threshold Voltage	V _{GE} = V _{CE} , I _C = 600 mA	V _{GE(TH)}	4.0	5.5	6.9	٧
Gate Leakage Current	V _{GE} = 20 V, V _{CE} = 0 V	I _{GES}	-	_	1	μΑ
Internal Gate Resistor			-	0.58	_	Ω
Turn-off safe operating area	V_{CC} < 800 V, $R_{G, off} \ge 30 \Omega$, T_{vj} < 150°C		-	800	_	Α
Turn-on Delay Time	T _J = 25°C	t _{d(on)}	-	224	_	ns
Rise Time	$V_{CE} = 600 \text{ V, } I_{C} = 200 \text{ A}$ $V_{GE} = -9 \text{ V to } +15 \text{ V, } R_{G, \text{ on}} = 7 \Omega,$	t _r	-	47	_	
Turn-off Delay Time	$R_{G, \text{ off}} = 21 \Omega$	t _{d(off)}	-	1588	_	
Fall Time		t _f	-	13	_	
Turn-on Switching Loss per Pulse		E _{on}	-	9700	_	μJ
Turn off Switching Loss per Pulse		E _{off}	-	7540	_	
Turn-on Delay Time	T _J = 125°C	t _{d(on)}	-	204	_	ns
Rise Time	$V_{CE} = 600 \text{ V}, I_{C} = 200 \text{ A}$ $V_{GE} = -9 \text{ V to } +15 \text{ V}, R_{G, \text{ on}} = 7 \Omega,$	t _r	_	50	_	
Turn-off Delay Time	$R_{G, off} = 21 \Omega$	t _{d(off)}	-	1693	_	
Fall Time		t _f	-	23	_	
Turn-on Switching Loss per Pulse		E _{on}	-	15430	-	μJ
Turn off Switching Loss per Pulse		E _{off}	-	10800	-	
Input Capacitance	V _{CE} = 20 V, V _{GE} = 0 V, f = 100 kHz	C _{ies}	-	48597	-	pF
Output Capacitance		C _{oes}	-	1836	-	
Reverse Transfer Capacitance		C _{res}	-	277	-	
Total Gate Charge	$V_{CE} = 600 \text{ V}, I_{C} = 57 \text{ A}, V_{GE} = -15/+20 \text{ V}$	Q_{g}	-	3048	_	nC

^{2.} Refer to ELECTRICAL CHĂRACTERISTICS, RECOMMENDED OPERATING RANGES and/or APPLICATION INFORMATION for Safe Operating parameters

${\tt NXH600N105L7F5S1HG,\,NXH600N105L7F5P1HG}$

ELECTRICAL CHARACTERISTICS ($T_J = 25^{\circ}C$ unless otherwise noted) (continued)

Parameter	Test Conditions	Symbol	Min	Тур	Max	Unit
OUTER IGBT (T1, T4)						
Thermal Resistance - Chip-to-heatsink	Thermal grease, Thickness = 2 Mil ±2%,	R_{thJH}	-	0.139	-	°C/W
Thermal Resistance - Chip-to-case	$\lambda = 2.87 \text{ W/mK}$	R _{thJC}	-	0.088	-	°C/W
NEUTRAL POINT DIODE (D5, D6)	•					
Diode Forward Voltage	I _F = 375 A, T _J = 25°C	V _F	-	2.8	3.4	V
	I _F = 375 A, T _J = 150°C		-	2.4	-	
Reverse Recovery Time	T _J = 25°C	t _{rr}	-	135	-	ns
Reverse Recovery Charge	V_{CE} = 600 V, I_{C} = 200 A V_{GE} = -9 V to +15 V, $R_{G, on}$ =7 Ω	Q _{rr}	_	8.73	-	μC
Peak Reverse Recovery Current	1	I _{RRM}	-	175	-	Α
Peak Rate of Fall of Recovery Current	7	di/dt	-	3.61	-	A/ns
Reverse Recovery Energy	1	E _{rr}	1	2771	-	μJ
Reverse Recovery Time	T _J = 125°C	t _{rr}	1	197	-	ns
Reverse Recovery Charge	V_{CE} = 600 V, I_{C} = 200 A V_{GE} = -9 V to +15 V, $R_{G, on}$ = 7 Ω	Q _{rr}	-	22.7	-	μC
Peak Reverse Recovery Current		I _{RRM}	_	275	-	Α
Peak Rate of Fall of Recovery Current	1	di/dt	-	3.34	-	A/ns
Reverse Recovery Energy	rse Recovery Energy				-	μJ
Thermal Resistance – Chip-to-heatsink	Thermal grease, Thickness = 2 Mil ±2%,	R _{thJH}	-	0.271	-	°C/W
Thermal Resistance - Chip-to-case	$\lambda = 2.87 \text{ W/mK}$	R _{thJC}	-	0.200	-	°C/W
INNER IGBT (T2, T3)	•			•		•
Collector-Emitter Cutoff Current	V _{GE} = 0 V, V _{CE} = 1050 V	I _{CES}	-	-	500	μΑ
Collector-Emitter Saturation Voltage	V _{GE} = 15 V, I _C = 600 A, T _J = 25°C	V _{CE(sat)}	_	1.6	2.3	V
	V _{GE} = 15 V, I _C = 600 A, T _J = 150°C		_	2.0	-	-
Gate-Emitter Threshold Voltage	$V_{GE} = V_{CE}$, $I_C = 600 \text{ mA}$	V _{GE(TH)}	4.0	5.5	6.9	V
Gate Leakage Current	V _{GE} = 20 V, V _{CE} = 0 V	I _{GES}	-	-	1	μΑ
Internal Gate Resistor		R_{g}	-	0.58	-	Ω
Turn-off Safe Operating Area	V_{CC} < 800 V, $R_{G, off} \ge 35 \Omega$, T_{vj} < 150°C		-	800	-	Α
Turn-on Delay Time	T _J = 25°C	t _{d(on)}	-	240	-	ns
Rise Time	V_{CE} = 600 V, I_{C} = 200 A V_{GE} = -9 V to +15 V, $R_{G, on}$ = 7 Ω,	t _r	-	52	-	
Turn-off Delay Time	$R_{G, \text{ off}} = 21 \Omega$	t _{d(off)}	-	1591	-	
Fall Time	7	t _f	-	17	-	
Turn-on Switching Loss per Pulse	7	E _{on}	-	10570	-	μJ
Turn-off Switching Loss per Pulse	7	E _{off}	_	8270	-	
Turn-on Delay Time	T _J = 125°C	t _{d(on)}	-	219	-	ns
Rise Time	V_{CE} = 600 V, I_{C} = 200 A V_{GE} = -9 V to +15 V, $R_{G, on}$ = 7 Ω,	t _r	-	55	-	
Turn-off Delay Time	$R_{G, \text{ off}} = 21 \Omega$	t _{d(off)}	-	1708	-	
Fall Time	1	t _f	-	19	-	1
Turn-on Switching Loss per Pulse	1	E _{on}	-	15000	-	μJ
Turn-off Switching Loss per Pulse	1	E _{off}	_	10730	-	1
Input Capacitance	V _{CE} = 20 V, V _{GE} = 0 V, f = 100 kHz	C _{ies}	-	48597	-	pF
Output Capacitance	1	C _{oes}	-	1836	-	1
Reverse Transfer Capacitance	1	C _{res}	-	277	-	1
Total Gate Charge	$V_{CE} = 600 \text{ V}, I_{C} = 57 \text{ A}, V_{GE} = -15/+20 \text{ V}$	Qg	-	3048	_	nC

ELECTRICAL CHARACTERISTICS ($T_J = 25^{\circ}C$ unless otherwise noted) (continued)

Parameter	Test Conditions	Symbol	Min	Тур	Max	Unit
INNER IGBT (T2, T3)		•		•		
Thermal Resistance - Chip-to-heatsink	Thermal grease, Thickness = 2 Mil ±2%,	R_{thJH}	_	0.139	_	°C/W
Thermal Resistance - Chip-to-case	$\lambda = 2.87 \text{ W/mK}$	R _{thJC}	-	0.088	-	°C/W
INVERSE DIODES (D1, D4)						
Diode Forward Voltage	I _F = 500 A, T _J = 25°C	V_{F}	-	2.8	3.4	V
	I _F = 500 A, T _J = 150°C	1	-	2.4	-]
Reverse Recovery Time	T _J = 25°C	t _{rr}	-	109	-	ns
Reverse Recovery Charge	$V_{CE} = 600 \text{ V}, I_{C} = 200 \text{ A}$ $V_{GE} = -9 \text{ V to } +15 \text{ V}, R_{G, on} = 7 \Omega$	Q _{rr}	_	7.87	-	μС
Peak Reverse Recovery Current	1	I _{RRM}	_	155	-	Α
Peak Rate of Fall of Recovery Current	1	di/dt	_	3.11	-	A/ns
Reverse Recovery Energy	1	E _{rr}	_	2377	-	μJ
Reverse Recovery Time	T _J = 125°C	t _{rr}	_	170	-	ns
Reverse Recovery Charge	V_{CE} = 600 V, I_{C} = 200 A V_{GE} = -9 V to +15 V, $R_{G, on}$ = 7 Ω	Q _{rr}	-	22	-	μC
Peak Reverse Recovery Current	1	I _{RRM}	-	231	_	Α
Peak Rate of Fall of Recovery Current	1	di/dt	-	2.98	-	A/ns
Reverse Recovery Energy	1	E _{rr}	_	8019	-	μJ
Thermal Resistance - Chip-to-heatsink	Thermal grease, Thickness = 2 Mil ±2%,	R_{thJH}	_	0.178	-	°C/W
Thermal Resistance - Chip-to-case	λ = 2.87 W/mK	R _{thJC}	-	0.114	-	°C/W
INVERSE DIODES (D2, D3)						
Diode Forward Voltage	I _F = 500 A, T _J = 25°C	V _F	-	2.8	3.4	V
	I _F = 500 A, T _J = 150°C		-	2.4	-]
Thermal Resistance - Chip-to-heatsink	Thermal grease, Thickness = 2 Mil ±2%,	R _{thJH}	-	0.194	-	°C/W
Thermal Resistance - Chip-to-case	λ = 2.87 W/mK	R _{thJC}	ì	0.124	-	°C/W
THERMISTOR CHARACTERISTICS						
Nominal Resistance	T = 25°C	R ₂₅	-	5	_	kΩ
Nominal Resistance	T = 100°C	R ₁₀₀	ı	492.2	-	Ω
Deviation of R25		R/R	-1	_	1	%
Power Dissipation		P_{D}	-	5	-	mW
Power Dissipation Constant			-	1.3	-	mW/K
B-value	B(25/85), tolerance ±1%		-	3430	_	K

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

ORDERING INFORMATION

Device	Marking	Package	Shipping
NXH600N105L7F5S1HG	NXH600N105L7F5S1HG	F5 - PIM57 112x62x12.00 (Solder PIN) (Pb-Free / Halide Free)	8 Units / Blister Tray
NXH600N105L7F5P1HG	NXH600N105L7F5P1HG	F5 – PIM57 112x62x12.00 (Press Fit PIN) (Pb-Free / Halide Free)	8 Units / Blister Tray

TYPICAL CHARACTERISTIC - T1, T2, T3, T4 (IGBT)

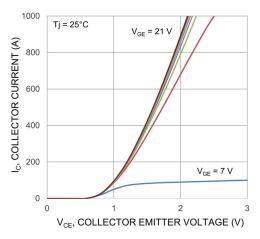


Figure 2. Typical Output Characteristics - IGBT

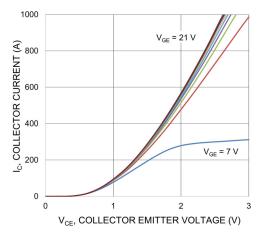


Figure 3. Typical Output Characteristics - IGBT

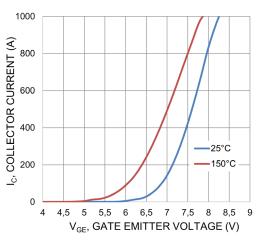


Figure 4. Transfer Characteristics - IGBT

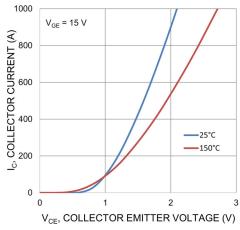


Figure 5. Saturation Voltage Characteristic - IGBT

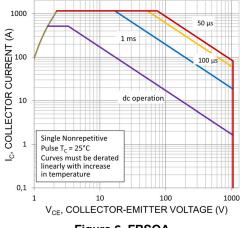


Figure 6. FBSOA

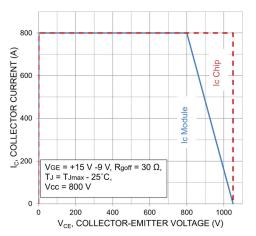


Figure 7. RBSOA (T1-T4)

TYPICAL CHARACTERISTIC - T1, T2, T3, T4 (IGBT) (CONTINUED)

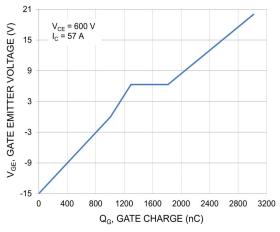


Figure 8. Gate Voltage vs. Gate Charge

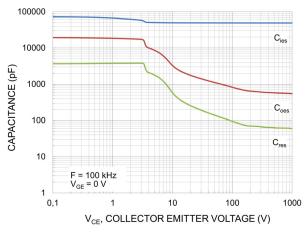


Figure 9. Capacitance vs. V_{CE}

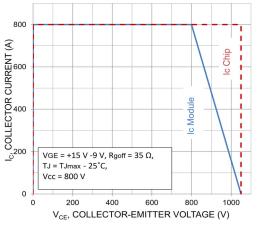


Figure 10. RBSOA (T2-T3)

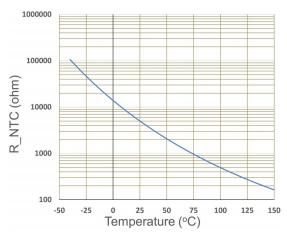


Figure 11. Temperature vs. NTC Value

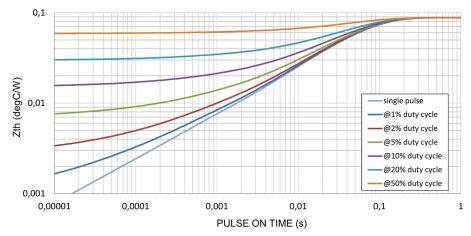


Figure 12. Transient Thermal Impedance (IGBT Zthjc)

TYPICAL CHARACTERISTIC - D1, D4 (INVERSE DIODE)

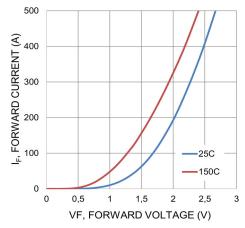


Figure 13. Inverse Diode Forward Characteristics

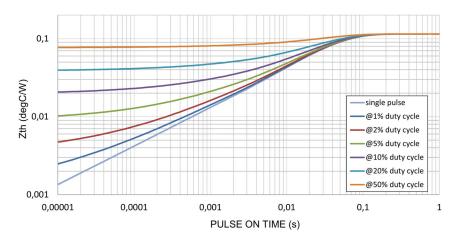


Figure 14. Transient Thermal Impedance (Inverse Diode Zthjc)

TYPICAL CHARACTERISTIC - D2, D3 (INVERSE DIODE)

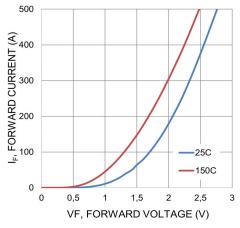


Figure 15. Inverse Diode Forward Characteristics

TYPICAL CHARACTERISTIC - D2, D3 (INVERSE DIODE) (CONTINUED)

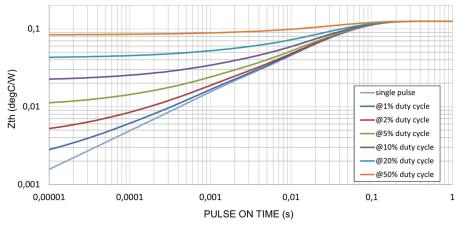


Figure 16. Transient Thermal Impedance (Inverse Diode Zthjc)

TYPICAL CHARACTERISTIC - D5, D6 (NEUTRAL POINT DIODE)

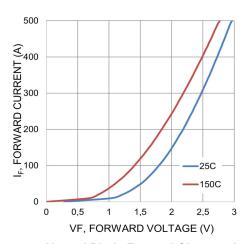


Figure 17. Neutral Diode Forward Characteristics

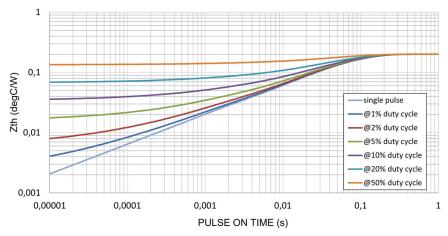


Figure 18. Transient Thermal Impedance (Neutral Point Diode Zthjc)

TYPICAL CHARACTERISTIC - T1 || D5 OR T4 || D6

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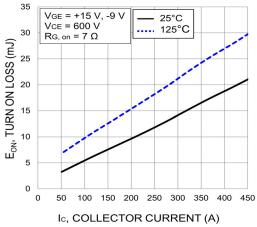


Figure 19. Typical Turn On Loss vs. I_C

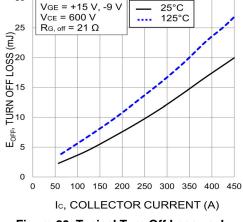


Figure 20. Typical Turn Off Loss vs. I_C

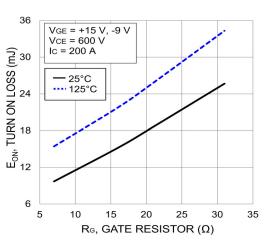


Figure 21. Typical Turn On Loss vs. $R_{\mbox{\scriptsize G}}$

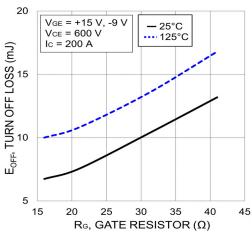


Figure 22. Typical Turn Off Loss vs. R_G

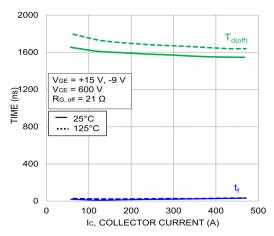


Figure 23. Typical Turn-Off Switching Time vs. I_C

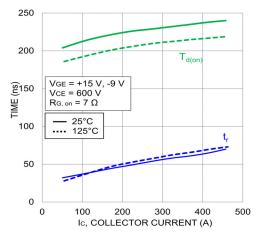


Figure 24. Typical Turn-On Switching Time vs. I_C

TYPICAL CHARACTERISTIC - T1 || D5 OR T4 || D6 (CONTINUED)

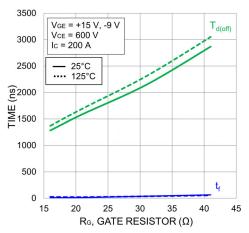


Figure 25. Typical Turn-Off Switching Time vs. R_G

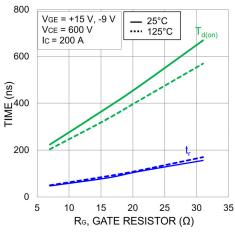


Figure 26. Typical Turn-On Switching Time vs. R_G

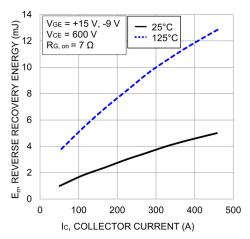


Figure 27. Typical Reverse Recovery Energy Loss vs. I_C

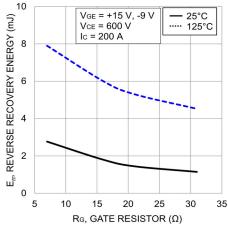


Figure 28. Typical Reverse Recovery Energy Loss vs. R_G

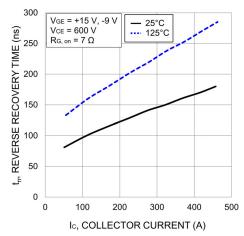


Figure 29. Typical Reverse Recovery Time vs. I_C

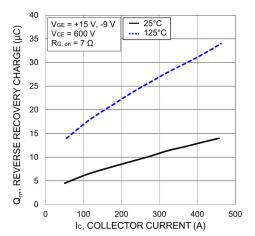


Figure 30. Typical Reverse Recovery Charge vs. I_C

TYPICAL CHARACTERISTIC - T1 || D5 OR T4 || D6 (CONTINUED)

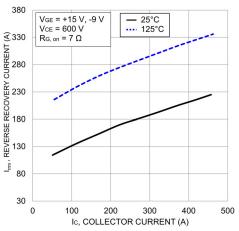


Figure 31. Typical Reverse Recovery Current vs. I_C

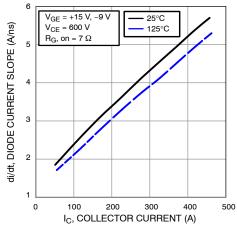


Figure 32. Typical di/dt vs. I_C

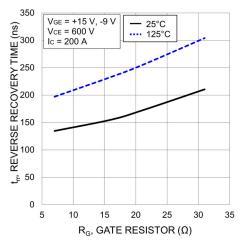


Figure 33. Typical Reverse Recovery Time vs. R_G

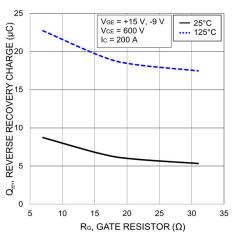


Figure 34. Typical Reverse Recovery Charge vs. R_G

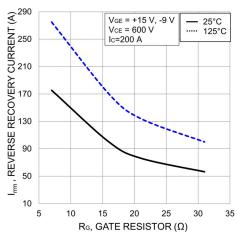


Figure 35. Typical Reverse Recovery Peak Current vs. $R_{\rm G}$

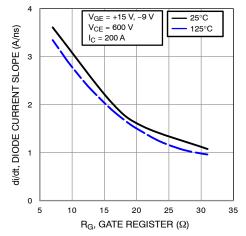


Figure 36. Typical di/dt vs. R_G

TYPICAL CHARACTERISTIC - T2 || D3,D4 OR T3 || D1,D2

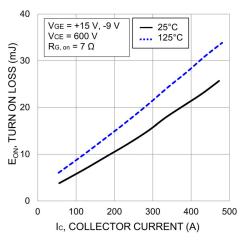


Figure 37. Typical Turn On Loss vs. I_C

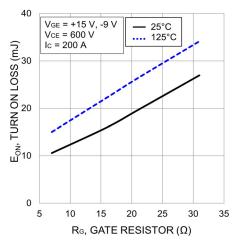


Figure 39. Typical Turn On Loss vs. R_G

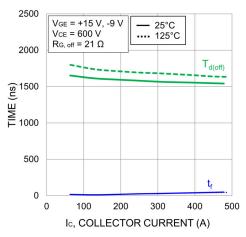


Figure 41. Typical Turn-Off Switching Time vs. I_C

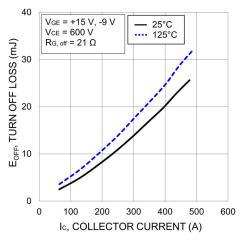


Figure 38. Typical Turn Off Loss vs. I_C

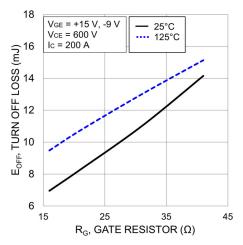


Figure 40. Typical Turn Off Loss vs. R_G

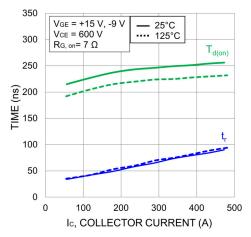


Figure 42. Typical Turn-On Switching Time vs. I_C

TYPICAL CHARACTERISTIC - T2 | D3,D4 OR T3 | D1,D2 (CONTINUED)

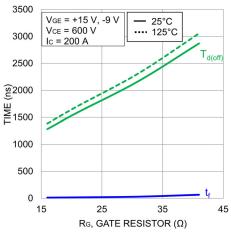


Figure 43. Typical Turn-Off Switching Time vs. R_G

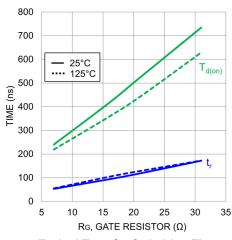


Figure 44. Typical Turn-On Switching Time vs. R_G

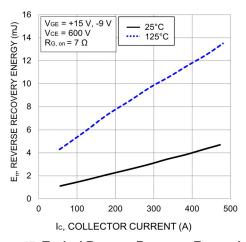


Figure 45. Typical Reverse Recovery Energy Loss vs. $I_{\rm C}$

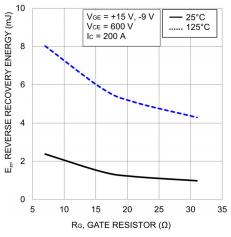


Figure 46. Typical Reverse Recovery Energy Loss vs. R_G

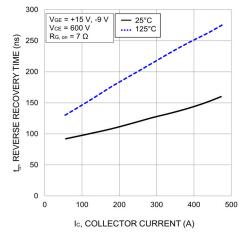


Figure 47. Typical Reverse Recovery Time vs. I_C

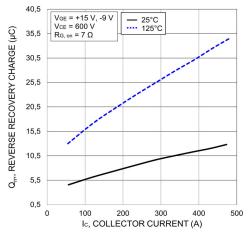


Figure 48. Typical Reverse Recovery Charge vs. I_C

TYPICAL CHARACTERISTIC - T2 || D3,D4 OR T3 || D1,D2 (CONTINUED)

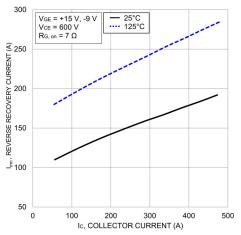


Figure 49. Typical Reverse Recovery Current vs. I_C

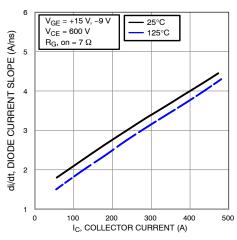


Figure 50. Typical di/dt vs. I_C

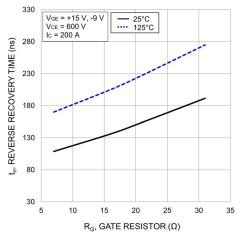


Figure 51. Typical Reverse Recovery Time vs. R_G

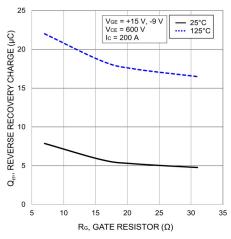


Figure 52. Typical Reverse Recovery Charge vs. R_G

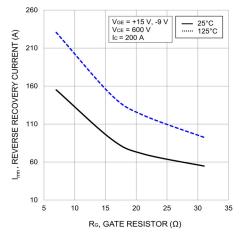


Figure 53. Typical Reverse Recovery Peak Current vs. R_G

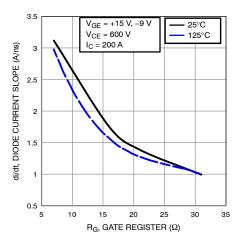
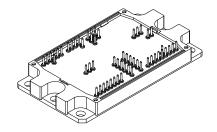


Figure 54. Typical di/dt vs. R_G







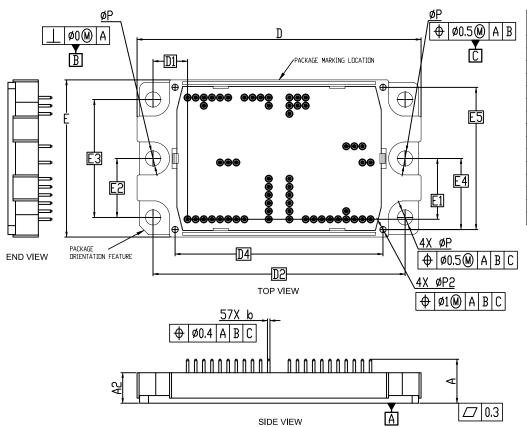
PIM57 112.00x62.00x12.00 CASE 180CX

CASE 180CX ISSUE O

DATE 30 JUL 2024

NOTES:

- 1. Dimensioning and tolerancing conform to ASME Y14.5
- 2. All dimensions are in millimeters.
- 3. Pin-grid is 3.2mm.
- 4. Package marking is located on the side opposite the package orientation feature.
- 5. The pins are gold-plated solder pin.



	MILLIMETERS				
DIM	MIN.	MIN. NOM.			
Α	17.00	17.40	17.80		
A2	11.70	12.00	12.30		
b	0.95	1.00	1.05		
D	111.60	112.00	112.40		
D1	13.62 BSC				
D2		99.40 BSC			
D4		82.00 BSC			
E	61.60	62.00	62.40		
E1		24.00 BSC			
E2		23.25 BSC			
E3	46.50 BSC				
E4	28.05 BSC				
E5	56.10 BSC				
Р	5.90 6.00		6.10		
P2	2.20	2.30	2.40		

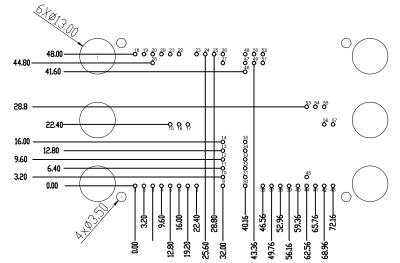
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PIM57 112.00x62.00x12.00

CASE 180CX ISSUE O

DATE 30 JUL 2024



RECOMMENDED MOUNTING PATTERN

* For additional Information on our Pb—Free strategy and soldering details, please download the Onsemi Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

NOTE 2:

				Pin table				
Pin	×	Y	Pin	×	Y	Pin	×	Y
1	0	0	23	22.4	48	45	62.56	3.2
2	3.2	0	24	25.6	48	46	40.16	41.6
3	6.4	0	25	28.8	48	47	40.16	44.8
4	9.6	0	26	32	48	48	40.16	48
5	12.8	0	27	32	44.8	49	43.36	44.8
6	16	0	28	6.4	44.8	50	43.36	48
7	19.2	0	29	9.6	48	51	46.56	44.8
8	22.4	0	30	40.16	0	52	46.56	48
9	32	0	31	40.16	3.2	53	62.56	28.8
10	32	3.2	32	40.16	6.4	54	65.76	28.8
11	32	6.4	33	40.16	9.6	55	68.96	28.8
12	32	9.6	34	40.16	12.8	56	68.96	22.4
13	32	12.8	35	40.16	16	57	72.16	22.4
14	32	16	36	46.56	0			
15	12.8	22.4	37	49.76	0			
16	16	22.4	38	52.96	0			
17	19.2	22.4	39	56.16	0			

65.76

68.96

72.16

62.56

0

0

40

41

42

43

GENERIC MARKING DIAGRAM*

ATYYWW	
FRONTSIDE MARKING	G
2D CODE	

BACKSIDE MARKING

XXXXX = Specific Device Code

AT = Assembly & Test Site Code YYWW = Year and Work Week Code *This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

19

20

21

3.2

6.4

12.8

16

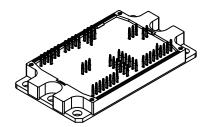
48

48

48

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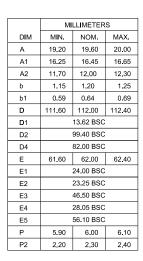
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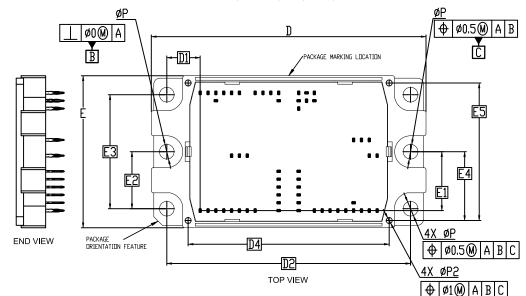
CASE 180JC ISSUE O

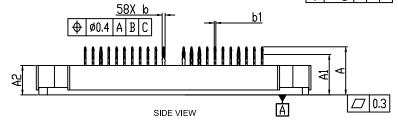
DATE 20 SEP 2024

NOTES:

- 1. Dimensioning and tolerancing conform to ASME Y14.5
- 2. All dimensions are in millimeters.
- 3. Dimensions b and b1 apply to the plated terminals and are measured at dimension A1
- 4. Pin-grid is 3.2mm.
- 5. Package marking is located on the side opposite the package orientation feature.
- 6. The pins are Sn plated press fit pin.







GENERIC MARKING DIAGRAM*

FRONTSIDE MARKING

2D CODE

BACKSIDE MARKING

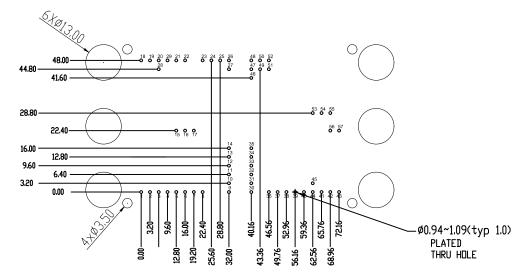
XXXXX = Specific Device Code

AT = Assembly & Test Site Code YYWW = Year and Work Week Code *This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

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PIM57 112.00x62.00x12.00 CASE 180JC ISSUE O

DATE 20 SEP 2024



RECOMMENDED MOUNTING PATTERN

* For additional Information on our Pb—Free strategy and soldering details, please download the Onsemi Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

NOTE 2:

Pin table								
Pin	х	Y	Pin	×	Y	Pin	×	Y
1	0	0	23	22.4	48	45	62.56	3.2
2	3.2	0	24	25.6	48	46	40.16	41.6
3	6.4	0	25	28.8	48	47	40.16	44.8
4	9.6	0	26	32	48	48	40.16	48
5	12.8	0	27	32	44.8	49	43.36	44.8
6	16	0	28	6.4	44.8	50	43.36	48
7	19.2	0	29	9.6	48	51	46.56	44.8
8	22.4	0	30	40.16	0	52	46.56	48
9	32	0	31	40.16	3.2	53	62.56	28.8
10	32	3.2	32	40.16	6.4	54	65.76	28.8
11	32	6.4	33	40.16	9.6	55	68.96	28.8
12	32	9.6	34	40.16	12.8	56	68.96	22.4
13	32	12.8	35	40.16	16	57	72.16	22.4
14	32	16	36	46.56	0			
15	12.8	22.4	37	49.76	0			
16	16	22.4	38	52.96	0			
17	19.2	22.4	39	56.16	0			
18	0	48	40	59.36	0	1		
19	3.2	48	41	65.76	0			
20	6.4	48	42	68.96	0			
21	12.8	48	43	72.16	0	1		
22	16	48	44	62.56	0	1		

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DESCRIPTION:	PIM57 112.00x62.00x12.00		PAGE 2 OF 2		

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