SPECIFICATION SHEET

SILICON CARBIDE SCHOTTKY DIODES TO-247-2 LGE3D L SERIES

SPECIFICATION SHEET NO.	S1114 – LGE3D30065HL0T	
ORIGINAL MFG/PART NO.	LGE Diodes/LGE3D30065H-L	
NEXTGEN PART CODE	LGE3D30065HL0T	Indicate This Code For RFQ /Order
DATE	Nov. 14, 2025	
REVISION	A7	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	Silicon Carbide Schottky Diodes 2 Pins, Case TO-247-2, LGE3D L Series, Continuous Forward Current (IF) @TC ≤ 143℃: 30A Max. Repetitive Peak Reverse Voltage (VRRM) 650V Max. Total Capacitive Charge (Qc) @ VR = 650V: 66nC Operating Junction Temperature Range (TC)-55°C ~+175°C Package in Tube, 30pcs/Tube RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE	
Issued/Checked/Approved	Mandy Xu / Ruby Zhang / Jack Zhang
Effective Date: Nov. 14, 2025	

CUSTOMER APPROVE
Date:

MAIN FEATURE

Image shown is a representation only. Exact specifications should be obtained from the product dimension.

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on V_F
- Temperature-independent Switching
- 175° C Operating Junction Temperature
- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses
- Meet MSL 1 Requirement
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)

APPLICATION

- Switch Mode Power Supplies
- Power Factor Correction
- Motor drive, PV Inverter, Wind Power Station

ELECTRICAL CHARACTERISTICS

- See Page 5 ~ Page 6.
- All Products Parameters are Subject To NextGen Components' Final Confirmation.

HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code LGE3D30065HL0T For RFQ and Order.

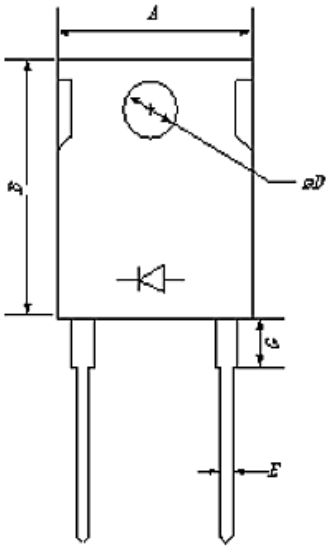
PART CODE GUIDE

RFQ
Request For Quotation

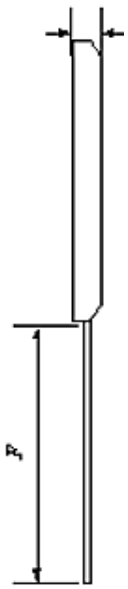
CODE	NAME	KEY SPECIFICATION OPTION
LGE3D	Product Series Code	Silicon Carbide Schottky Diodes, LGE3D L Series
30	Forward Current Code	30: 30A Max. @ Tc ≤ 143℃
065	Repetitive Peak Reverse Voltage Code	065: 650V Max.
H	Package Case Code	A: TO-220AC; AF: ITO-220AC; D: TO-247-3 E: TO-263; F: TO-252-2; G: DFN 8×8 H: TO-247-2; J: TO-263-7; N: DFN5X6 Q: TO-247-4; T: SOT-227
L0T	Internal Control Code	Letter A~Z, a-z or Digits (0-9)
XX	Special/Custom Parameters	Blank: N/A; XX: Letter A~Z, a~z or digits (0~9) for Special/Custom Parameters

DIMENSION - - Unit: (mm), Case TO-247-2 Outline

Top View

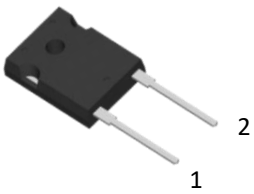


Side View



SYMBOL	TO-247-2		
	Min.	Typ.	Max.
A	14.18	15.75	17.33
B	18.45	20.5	22.55
C	4.50	5.00	5.50
D	3.15	3.50	3.85
E	1.08	1.20	1.32
F	18.27	20.30	22.33

INTERNAL CIRCUIT DIAGRAM



650V SiC SCHOTTKY DIODE

VRRM	IF @ Tc ≤143℃	MARKING	PACKAGE/CASE
650V	30A	LGE3D30065H	TO-247-2

MAX. RATINGS @Tc=25 °C (Unless Otherwise Specified)

PARAMETER	SYMBOL	TEST CONDITIONS	VALUE	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	Tc=25°C	650	V
Surge Peak Reverse Voltage	V_{RSM}	Tc=25°C	650	V
DC Blocking Voltage	V_R	Tc=25°C	650	V
Forward Current	I_F	Tc≤135°C	35	A
		Tc≤143°C	30	
Non-Repetitive Forward Surge Current	I_{FSM}	Tc=25°C, tp=8.3ms, half sine wave	210	A
Power Dissipation Note Fig 3	P_{tot}	Tc=25°C	234	W
Maximum Case Temperature	T_C		143	°C
Operating Junction Tempe. Range	T_j		-55 ~ +175	°C
Storage Temperature Range	T_{stg}		-55 ~ +175	°C
TO-247 Mounting Torque		M3 Screw	1	Nm

ELECTRICAL CHARACTERISTICS @Tc=25 °C (Unless Otherwise Specified)

PARAMETER	SYMBOL	CONDITIONS	VALUE			UNIT
			MIN.	TYP.	MAX.	
Forward Voltage Note Fig 1	V_F	I_F=30A, Tj=25°C	-	1.5	1.8	V
		I_F=30A, Tj=175°C	-	1.78	2.3	
Reverse Current Note Fig 2	I_R	V_R=650V, Tj=25°C	-	2	20	µA
		V_R=650V, Tj=175°C	-	15	200	
Total Capacitance Note Fig 5	C	V_R=0V, Tj=25°C, f=1MHz	-	1805	-	pF
		V_R=200V, Tj=25°C, f=1MHz	-	176	-	
		V_R=400V, Tj=25°C, f=1MHz	-	145	-	
Total Capacitive Charge Note Fig 4	Qc	V_R =650V, I_F=30A, di/dt = 200A/µs Tj=25°C	-	66	-	nC

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	CONDITIONS	VALUE			UNIT
			MIN.	TYP.	MAX.	
Thermal Resistance from Junction to Case Note Fig 6	R θJC	-	-	0.64	-	°C/W
Thermal Resistance from Junction to Ambient	R θJA	-		80		°C/W
Soldering Temperature	T sold	-		260		°C

TYPICAL PERFORMANCE (For Reference Only)

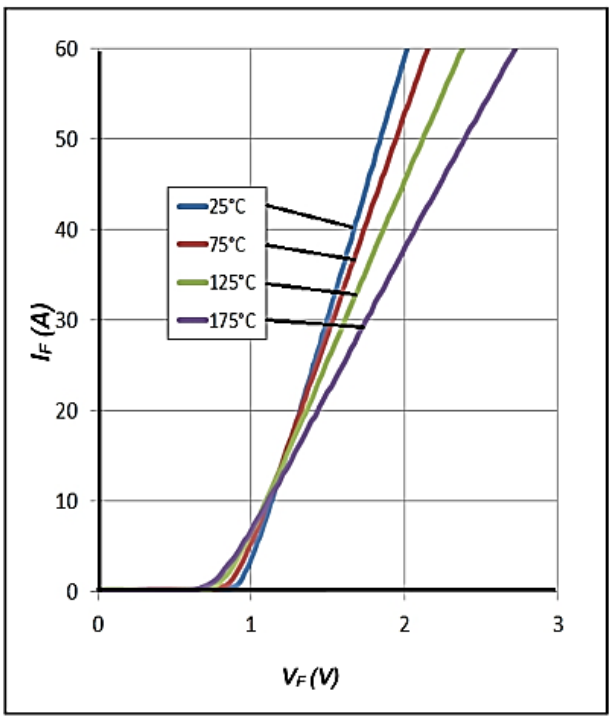


Figure 1. Forward Characteristics

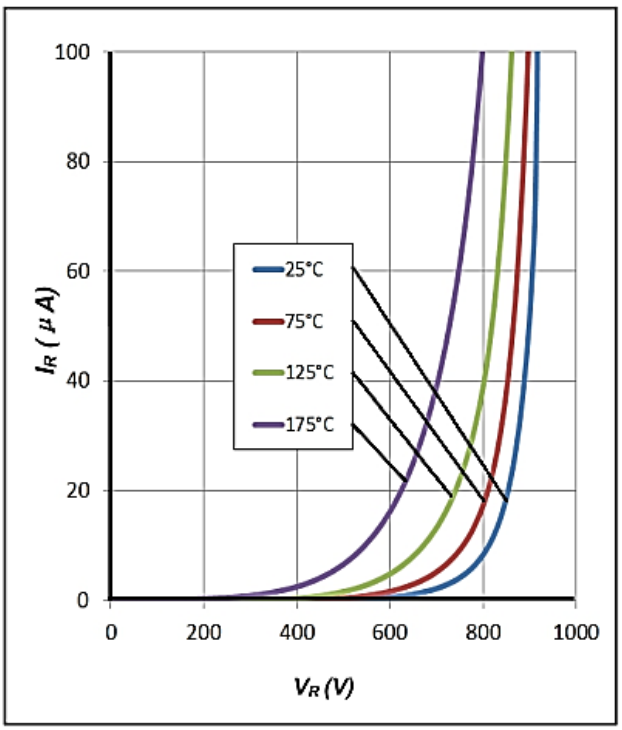


Figure 2. Reverse Characteristics

TYPICAL PERFORMANCE (For Reference Only)

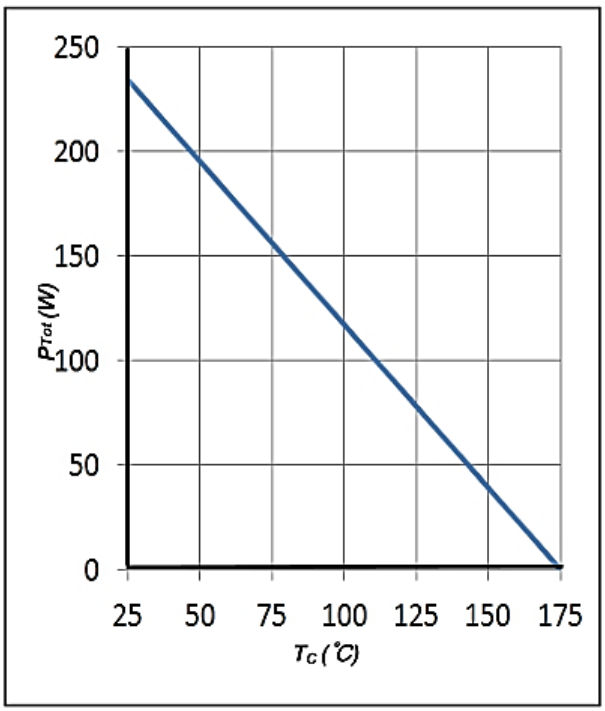


Figure 3. Power Derating

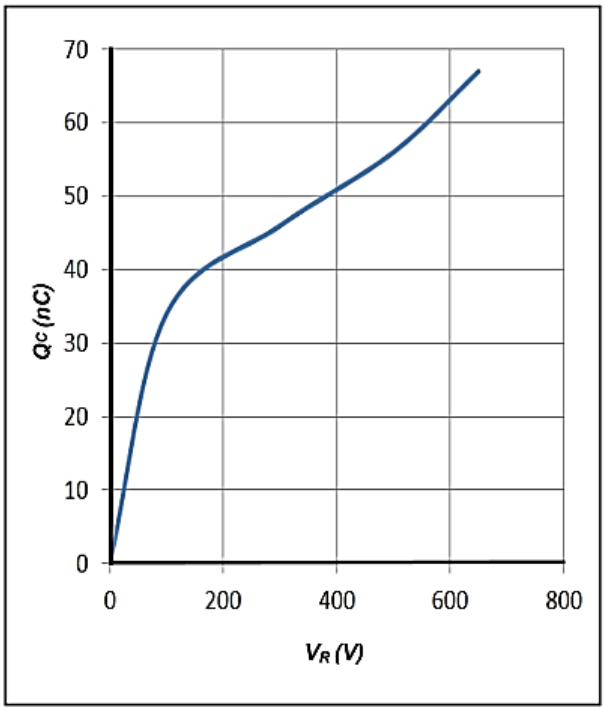


Figure 4. Total Capacitive Charge vs. Reverse Voltage

TYPICAL PERFORMANCE (For Reference Only)

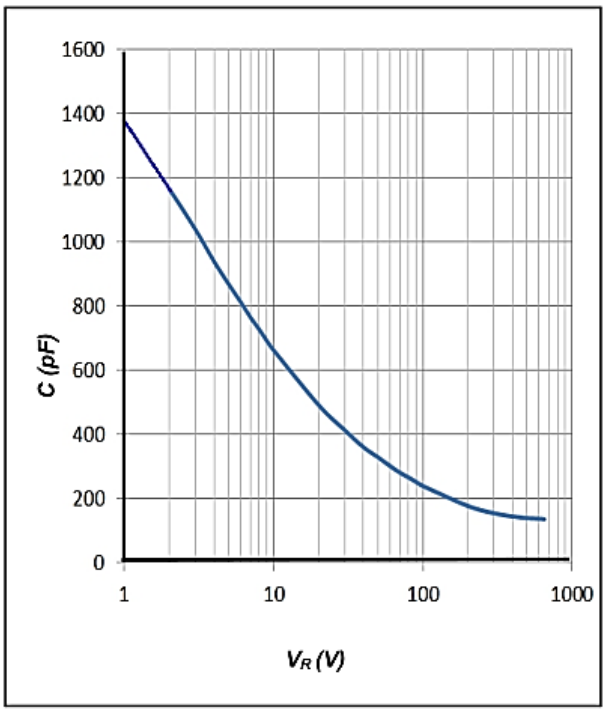


Figure 5. Total Capacitance vs. Reverse Voltage

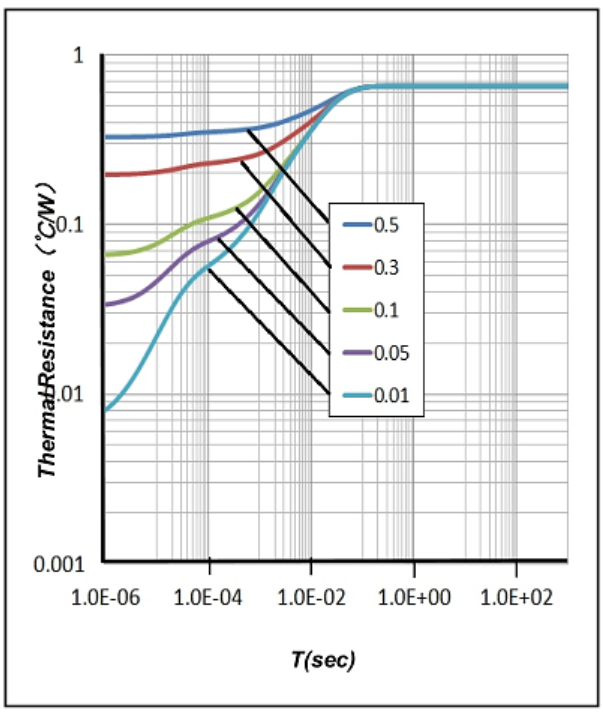
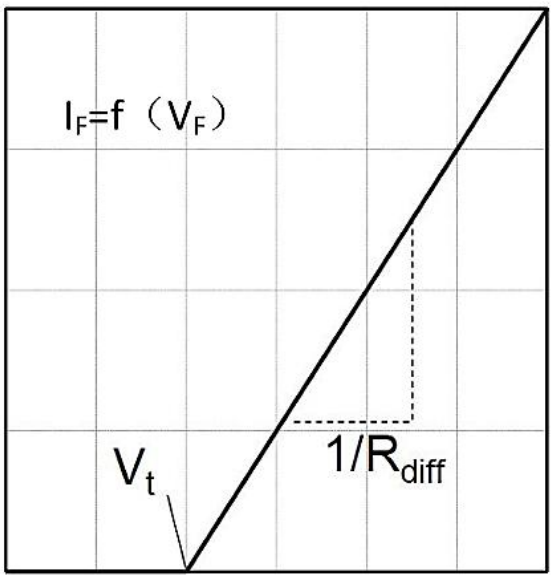


Figure 6. Transient Thermal Impedance

SIMPLIFIED DIODE MODEL

Equivalent IV Curve for Model



Mathematical Equation

$V_F=V_t+I_F \times R_{diff}$

$V_t = - -0.0011 \times T_j + 0.98247$ [V]

$R_{diff} = 3.38 \times 10\text{-}7 \times Tj2 + 2.78 \times 10\text{-}5 \times T_j + 0.0169$ [Ω]

Note:

1. T_j =Diode Junction Temperature In Degrees Celsius
2. Valid from 25° C to 175° C
3. I_F=Forward Current
4. Less than 60A

IMPORTANT NOTES AND DISCLAIMER

1. ROHS COMPLIANCE: The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained can be obtained at Download Center.
2. REACH COMPLIANCE: REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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