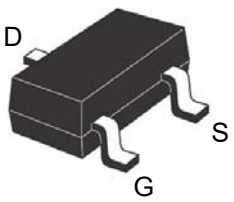
Features

V_{DS}= 60V
I_D= 0.3A
$R_{DS(ON)}$≤ 2Ω(V_{GS}=10V)

Pin Configurations



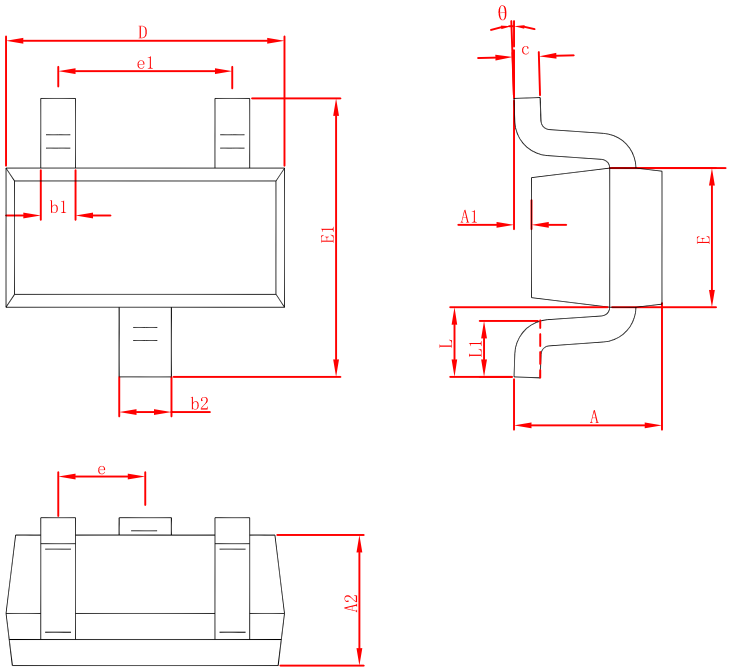
General Description

The TNM3K60FEX uses advanced technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

- ROHS compliant
- MSL: 3

Package Information

SOT-523



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

- **Absolute Maximum Ratings (@T_A=25°C unless otherwise noted)**

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate Source Voltage	V_{GSS}	±20	V
Drain Current (Continuous) *AC	I_D	0.3	A
Drain Current (Pulse) *B	I_{DM}	1.2	A
Power Dissipation	P_D	0.15	W
Operating Temperature/ Storage Temperature	T_J/T_{STG}	-55~150	°C

- **Thermal Characteristics**

Parameter	Symbol	Ratings	Unit
Thermal Resistance ,Junction-to-Ambient	$R_{\theta JA}$	833	°C/W

- **Electrical Characteristics (@T_A=25°C unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V，I_D=250uA	60	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=48V，V_{GS}=0V	--	--	1	uA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS}，I_{DS}=250uA	1.1	--	2.1	V
Gate Leakage Current	I_{GSS}	V_{GS}=±20V，V_{DS}=0V	--	--	±10	uA
Drain-Source On-state Resistance	$R_{DS(on)}$	V_{GS}=10V，I_D=0.25A	--	--	2.0	Ω
		V_{GS}=4.5V，I_D=0.25A	--	--	2.8	Ω
Total Gate Charge	Q_g	V_{GS}=10V，V_{DD}=30V，I_D=0.3A	--	1.8	--	nC
Tum-on Delay Time	$t_{d(on)}$	V_{GS}=10V，V_{DD}=30V，I_D=0.3A R_{GEN}=6Ω	--	5.2	--	ns
Turn-off Delay Time	$t_{d(off)}$		--	16.7	--	ns
Input Capacitance	C_{iss}	V_{GS}=0V，V_{DS}=30V，f=1MHZ	--	16	--	pF
Output Capacitance	C_{oss}		--	10	--	pF
Reverse Transfer Capacitance	C_{rss}		--	5.5	--	pF

A: The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR- 4 board with 2oz. Copper, in a still air environment with TA=25C. The value in any given application depends on the user's specific board design.

B: Repetitive rating, pulse width limited by junction temperature .

C: The current rating is based on the t< 10s junction to ambient thermal resistance rating.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

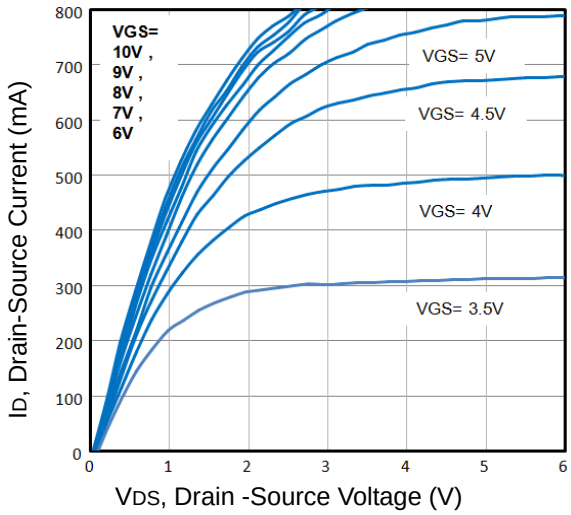


Fig1. Typical Output Characteristics

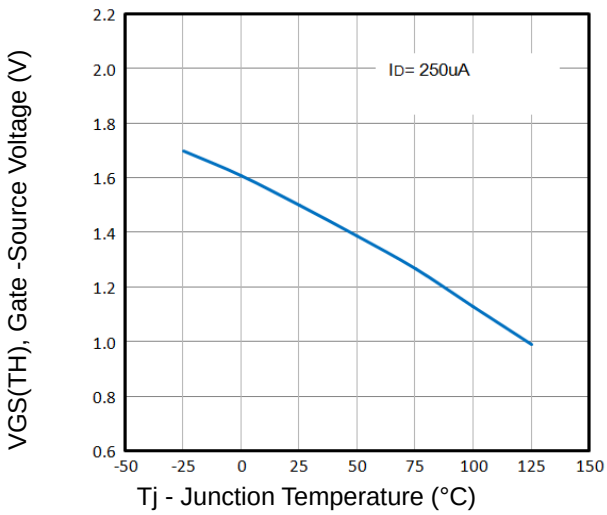


Fig2. Normalized Threshold Voltage Vs. Temperature

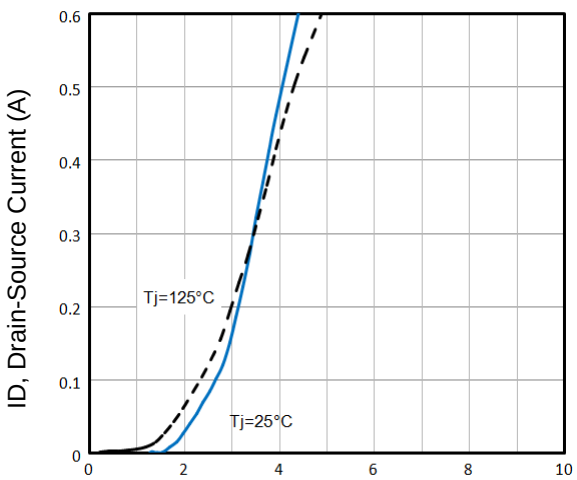


Fig3. Typical Transfer Characteristics

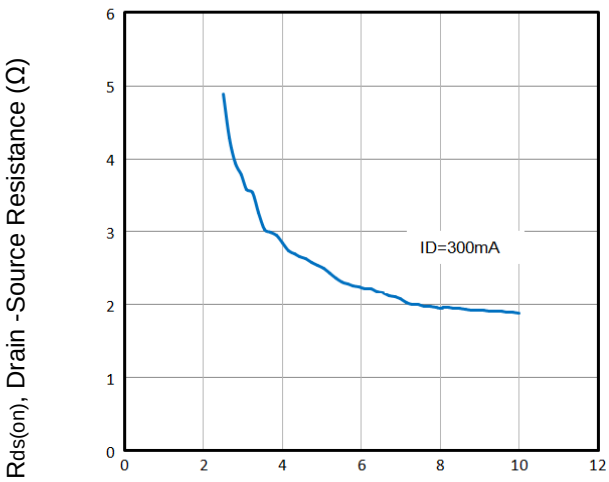


Fig4. Rds(on) vs Gate -Source Voltage

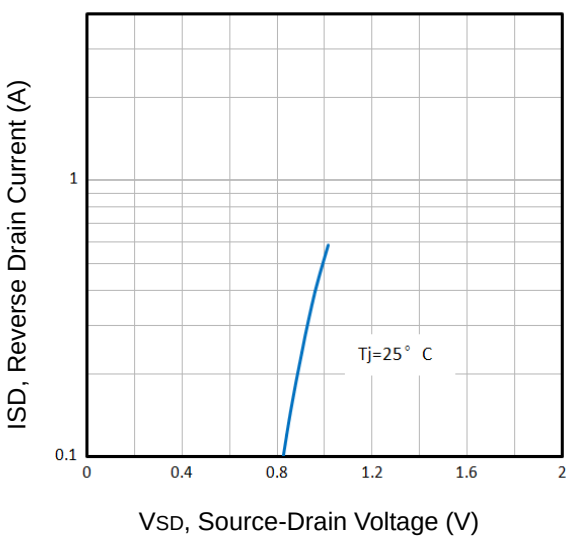


Fig5. Typical Source-Drain Diode Forward Voltage

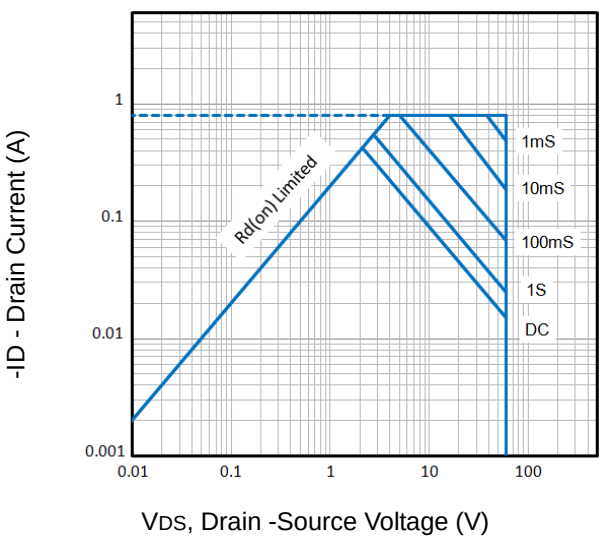


Fig6. Maximum Safe Operating Area

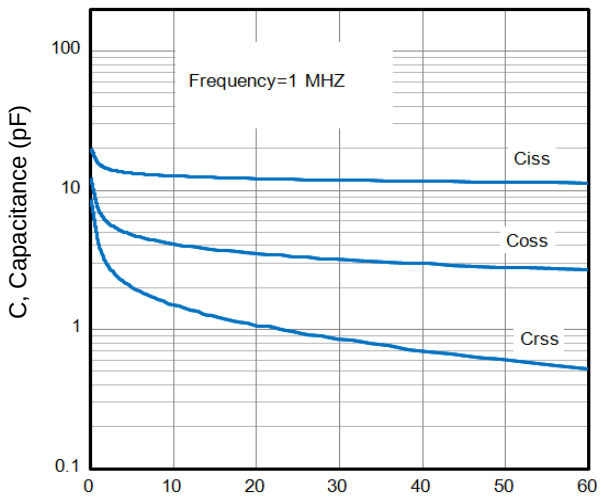


Fig7. Typical Capacitance Vs. Drain-Source Voltage

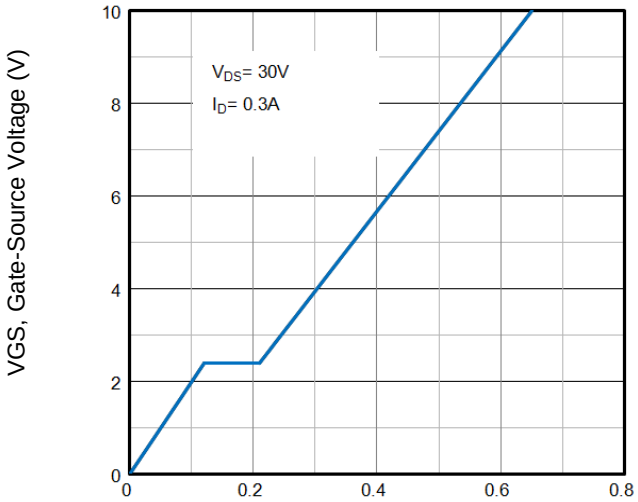


Fig8. Typical Gate Charge Vs. Gate-Source Voltage

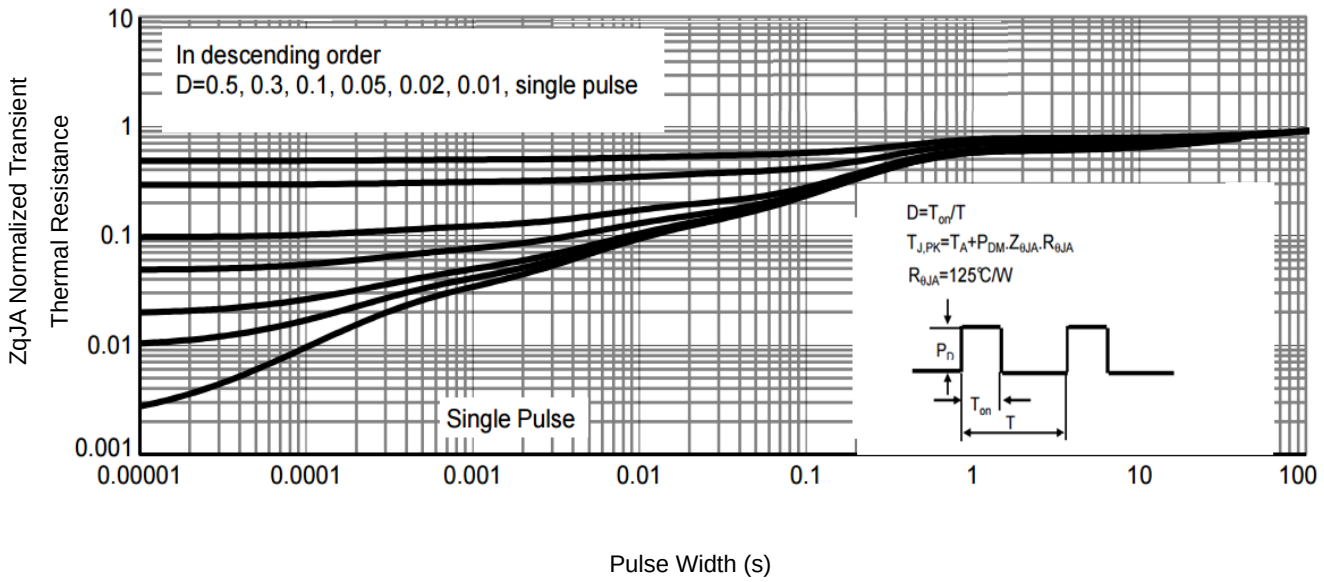
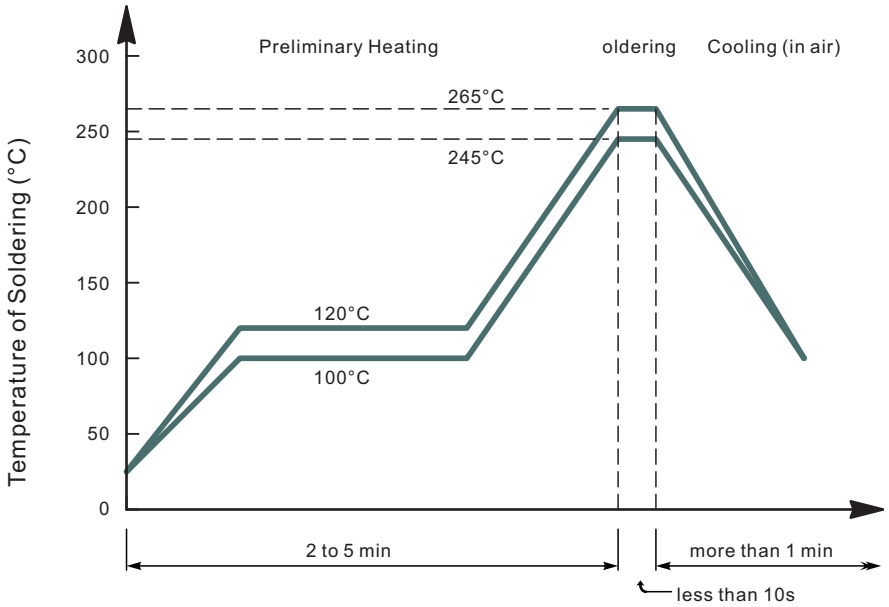
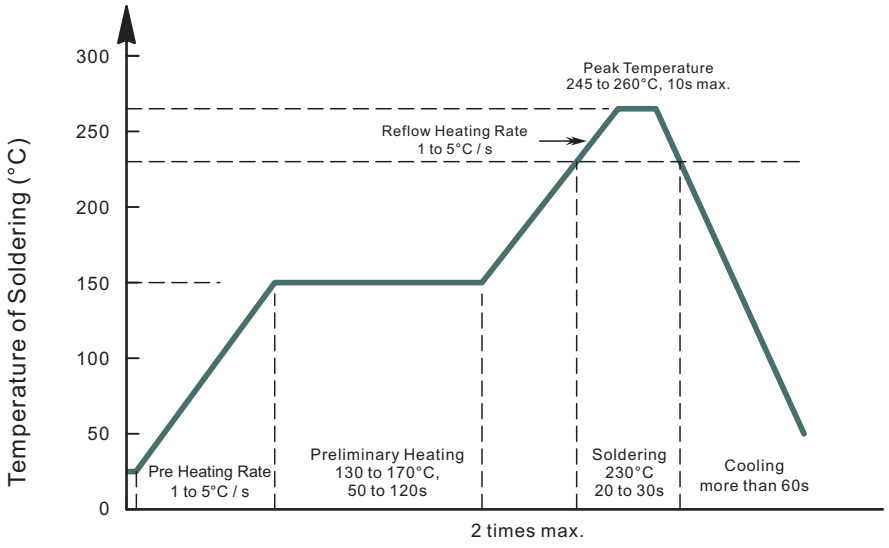


Fig9. Normalized Maximum Transient Thermal Impedance

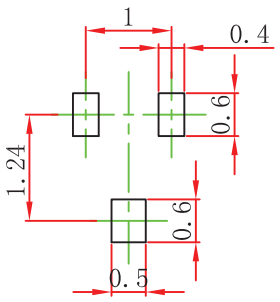
- ecommended condition of flow soldering



- ecommended condition of reflow soldering



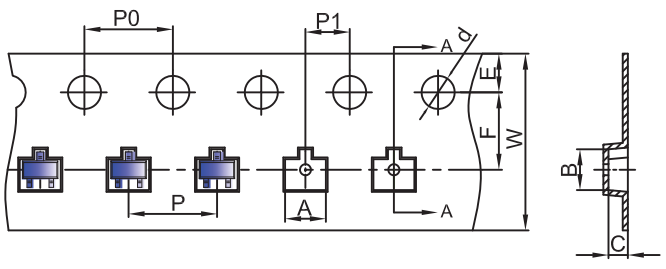
SOT-523 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

SOT-523 Tape and Reel

SOT-523 Embossed Carrier Tape

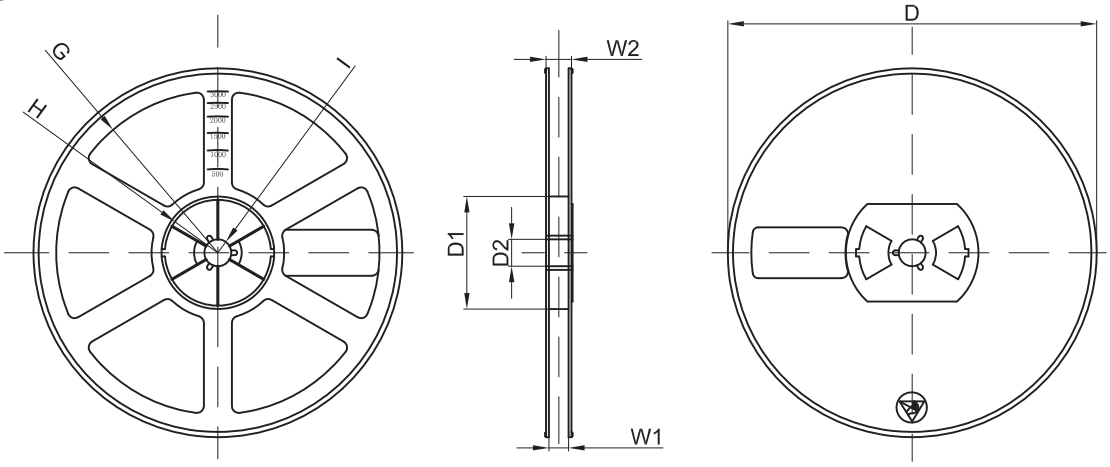


Packaging Description:

SOT-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-523 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch					

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by Shenzhen JingYang ***manufacturer:***

Other Similar products are found below :

IRFD120 JANTX2N5237 BUK455-60A/B MIC4420CM-TR VN1206L NDP4060 SI4482DY IPS70R2K0CEAKMA1 SQD23N06-31L-GE3 TK16J60W,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 DMN1053UCP4-7 SQJ469EP-T1-GE3 NTE2384 DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 DMP22D4UFO-7B DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 STU5N65M6 DMN6022SSD-13 DMN13M9UCA6-7 DMTH10H4M6SPS-13 DMN2990UFB-7B IPB80P04P405ATMA2 2N7002W-G MCAC30N06Y-TP MCQ7328-TP NTMC083NP10M5L NVMFS2D3P04M8LT1G BXP7N65D BXP4N65F AOL1454G WMJ80N60C4 BXP2N20L BXP2N65D BXT1150N10J BXT1700P06M TSM60NB380CP ROG RQ7L055BGTCR DMNH15H110SK3-13 SLF10N65ABV2 BSO203SP BSO211P