

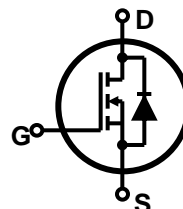
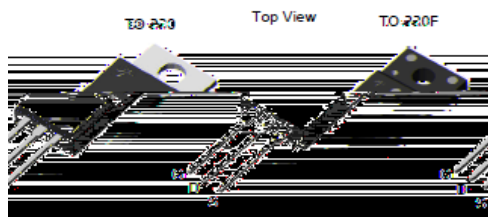
Features

- Low gate charge
- 100% avalanche tested
- Improved dv/dt capability
- RoHS compliant
- Halogen free package
- JEDEC Qualification

$$V_{DSS} = 715 \text{ V} @ T_{jmax}$$

$$I_D = 5.5 \text{ A}$$

$$R_{DS(on)} = 1.6 \Omega(\text{max}) @ V_{GS} = 10 \text{ V}$$



Device	Package	Marking	Remark
TMP6N65 / TMPF6N65	TO-220 / TO-220F	TMP6N65 / TMPF6N65	RoHS
TMP6N65G / TMPF6N65G	TO-220 / TO-220F	TMP6N65G / TMPF6N65G	Halogen Free

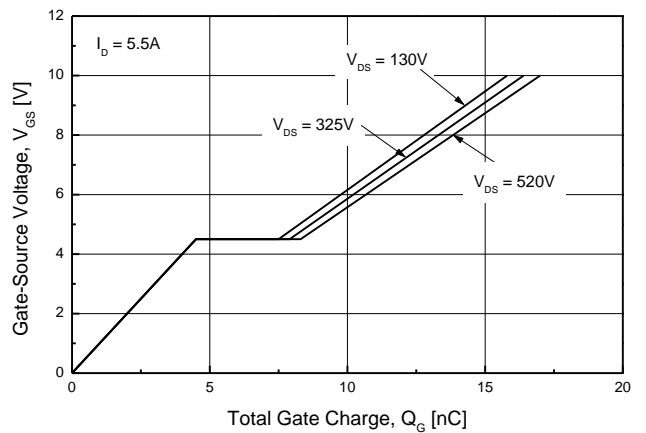
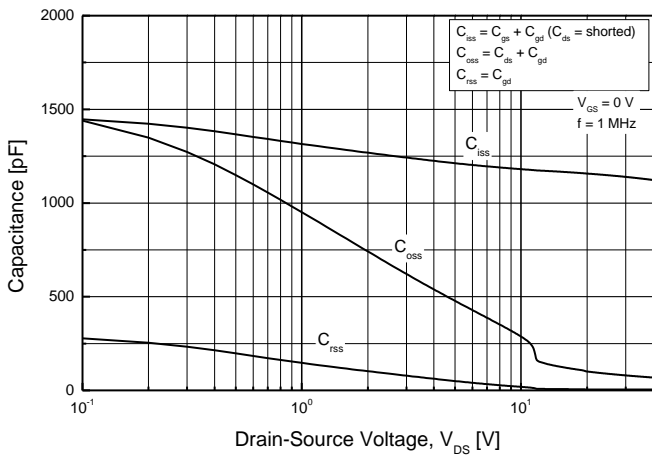
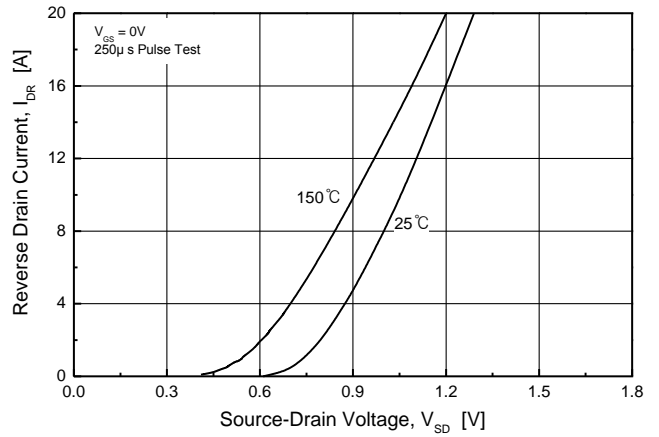
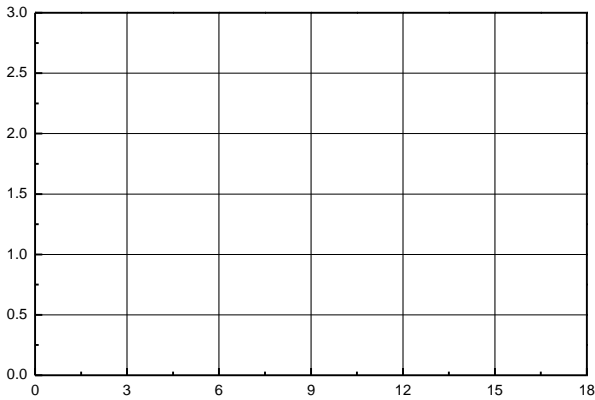
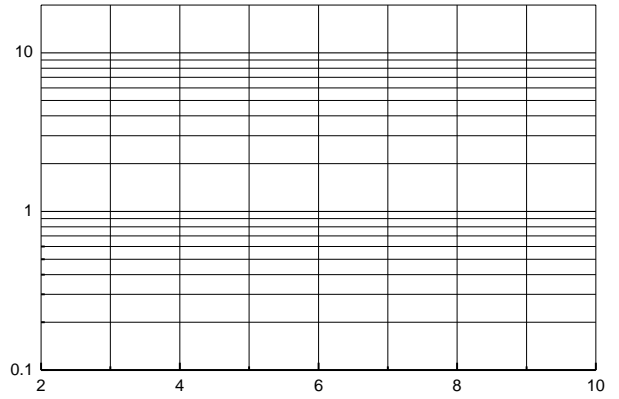
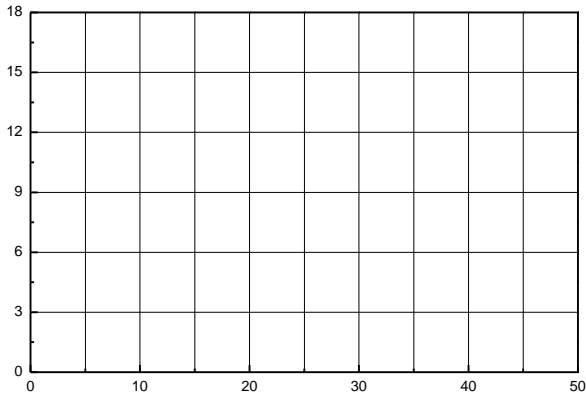
Absolute Maximum Ratings

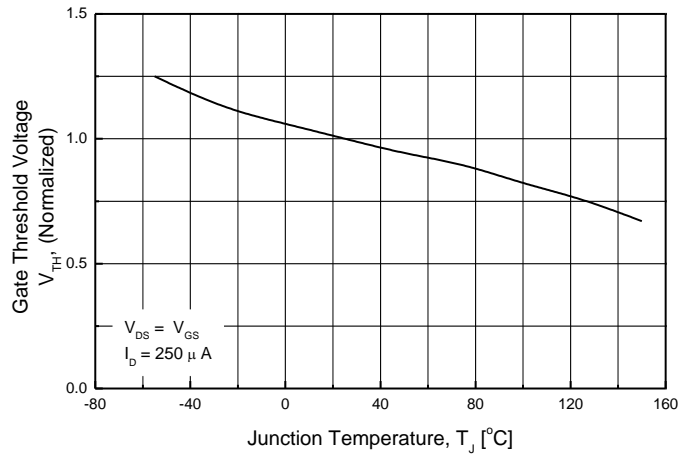
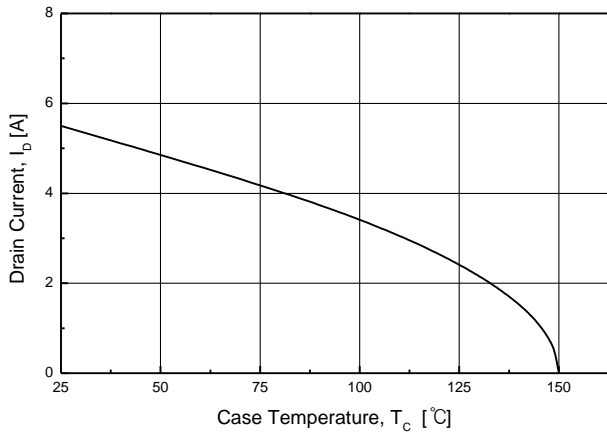
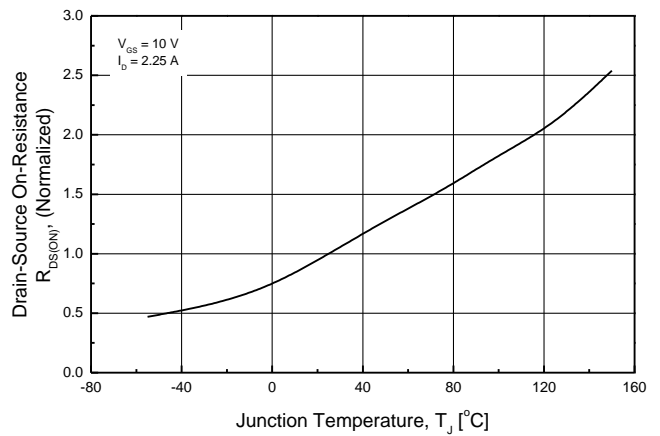
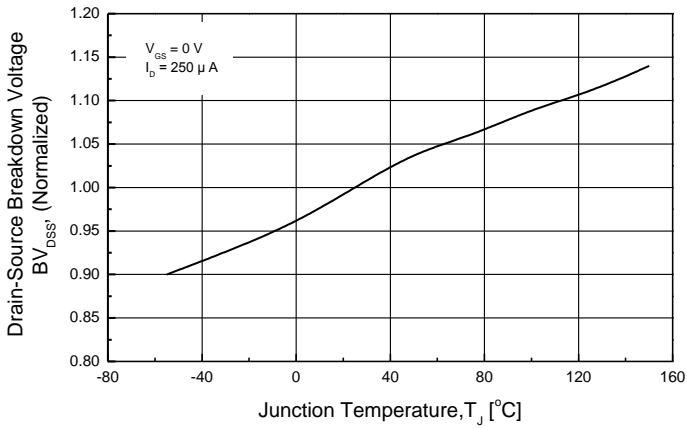
Parameter	Symbol	TMP6N65(G)	TMPF6N65(G)	Unit	
Drain-Source Voltage	V_{DSS}	650		V	
Gate-Source Voltage	V_{GS}	±30		V	
Continuous Drain Current	I_D	$T_C = 25 \text{ }^\circ\text{C}$	5.5	5.5 *	A
		$T_C = 100 \text{ }^\circ\text{C}$	3.46	3.46 *	A
Pulsed Drain Current (Note 1)	I_{DM}	22	22*	A	
Single Pulse Avalanche Energy (Note 2)	E_{AS}	196.6		mJ	
Repetitive Avalanche Current (Note 1)	I_{AR}	5.5		A	
Repetitive Avalanche Energy (Note 1)	E_{AR}	12		mJ	
Power Dissipation	P_D	$T_C = 25 \text{ }^\circ\text{C}$	120	39	W
		Derate above 25 $^\circ\text{C}$	0.96	0.31	W/ $^\circ\text{C}$
Peak Diode Recovery dv/dt (Note 3)	dv/dt	4.5		V/ns	
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150		$^\circ\text{C}$	
Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	T_L	300		$^\circ\text{C}$	

* Limited only by maximum junction temperature

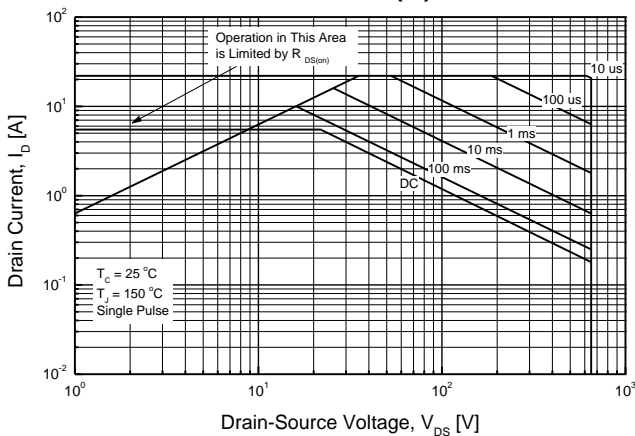
Thermal Characteristics

Parameter	Symbol	TMP6N65(G)	TMPF6N65(G)	Unit
Maximum Thermal resistance, Junction-to-Case	$R_{\theta JC}$	1.04	3.2	$^\circ\text{C}/\text{W}$
Maximum Thermal resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	62.5	$^\circ\text{C}/\text{W}$

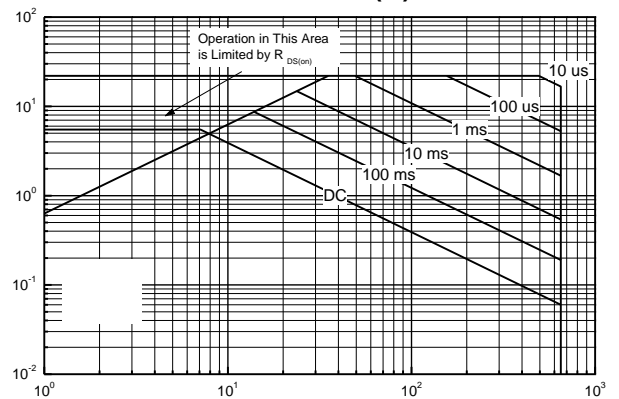




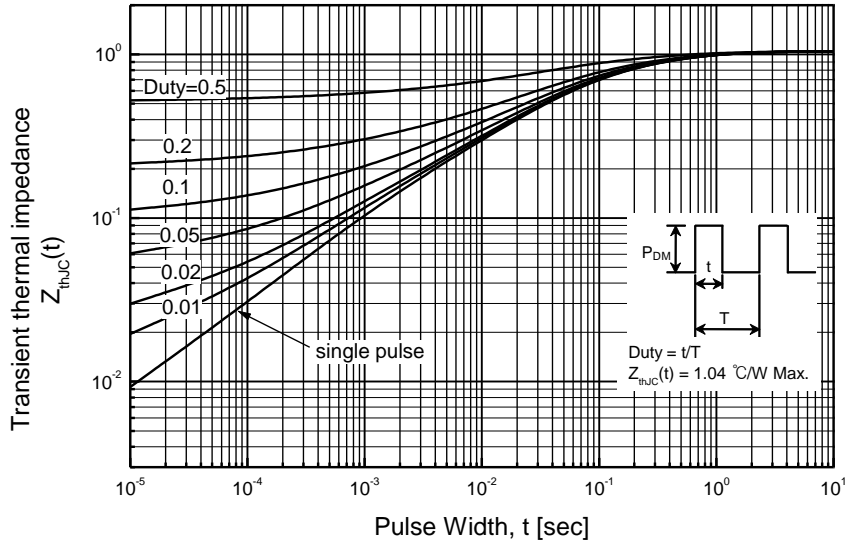
TMP6N65(G)



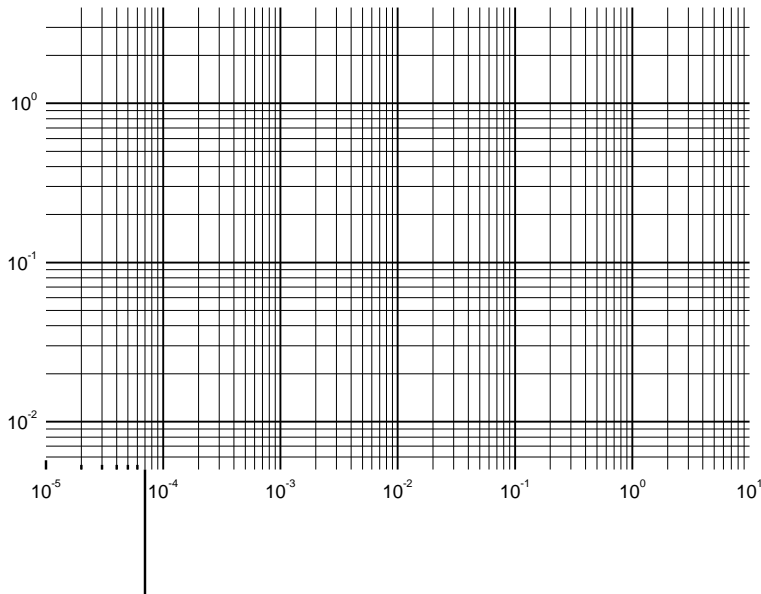
TMPF6N65(G)



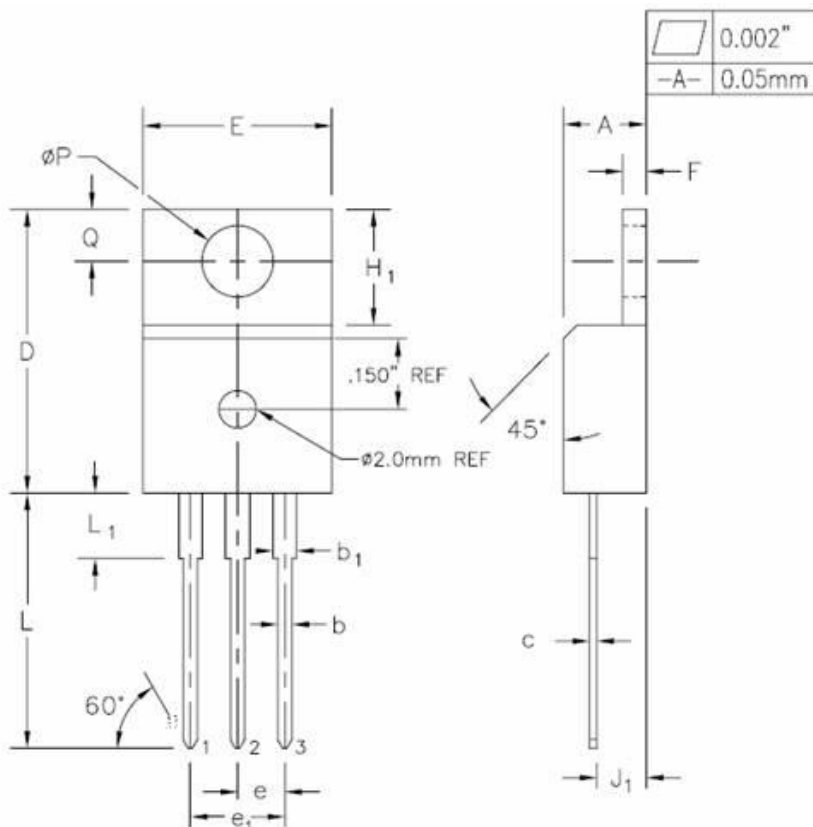
TMP6N65(G)



TMPF6N65(G)

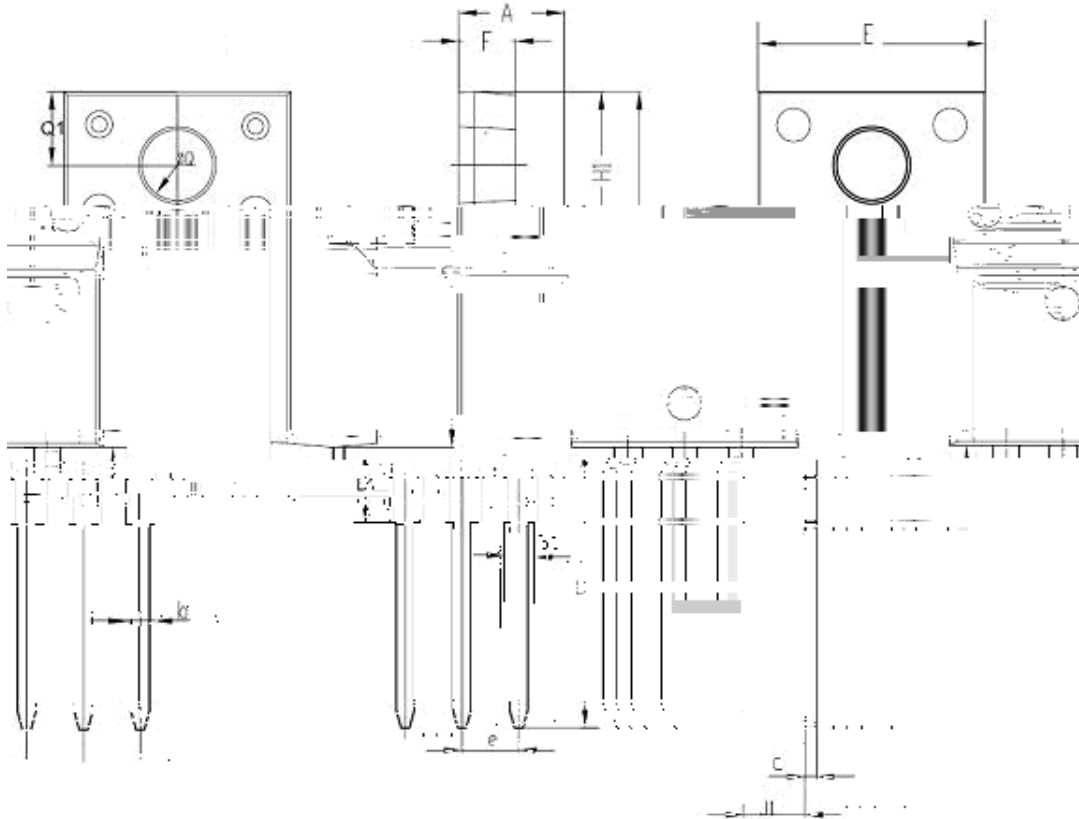


TO-220AB-3L MECHANICAL DATA



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	0.170	0.180	4.32	4.57	
b	0.028	0.036	0.71	0.91	
b ₁	0.045	0.055	1.15	1.39	
c	0.014	0.021	0.36	0.53	
D	0.590	0.610	14.99	15.49	
E	0.395	0.410	10.04	10.41	
e	0.100 TYP.		2.54 TYP.		
e ₁	0.200 BSC		5.08 BSC		
F	0.048	0.054	1.22	1.37	
H ₁	0.235	0.255	5.97	6.47	
J ₁	0.100	0.110	2.54	2.79	
L	0.530	0.550	13.47	13.97	
L ₁	0.130	0.150	3.31	3.81	2
ϕP	0.140	0.153	3.70	3.90	
Q	0.102	0.112	2.60	2.84	

TO-220F-3L MECHANICAL DATA



NC M	JODI F !		NJMJNF F !!		O F !
	NJO!	NB !	NJO!	NB !	
B!	1 289!!	1 2 5!!	5 64!!	5 4!!	!
!	1 139!!	1 147!!	1 82!!	1 2!!	!
D!	1 129!	1 135!	1 56!	1 71!	!
E!	1 728!!	1 744!!	26 78!!	27 18!!	!
F!	1 4 3!!	1 519!!	7!!	21 47!!	!
!	1 211!	!	3 65	!	!
I 2!	1 367!!	1 383!!	7 61!!	7 1!!	!
2!	1 212!!	1 228!!	3 67!!	3 7!!	!
M	1 614!!	1 62 !!	23 89!!	24 29!!	!
φQ!	1 228!!	1 244!!	3 9!!	4 49!!	!
2!	1 156!!	1 166!!	2 26!!	2 4 !!	!
M!	1 225!	1 241!!	3 !!	4 4!!	!
2!	1 233!!	1 249!!	4 21!!	4 61!!	!
!	1 1 3!	1 219!	3 45!	3 85!	