

TMP12N60/TMPF12N60 TMP12N60G/TMPF12N60G

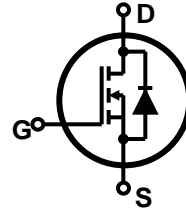
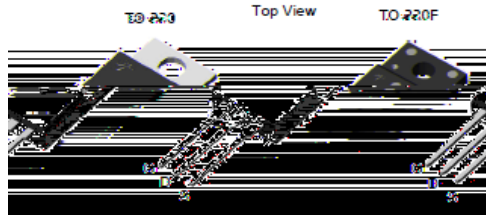
Features

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

$$V_{DSS} = 660 \text{ V} @ T_{jmax}$$

$$I_D = 12 \text{ A}$$

$$R_{DS(on)} = 0.65 \text{ (max) } @ V_{GS} = 10 \text{ V}$$



Device	Package	Marking	Remark
TMP12N60 / TMPF12N60	TO-220 / TO-220F	TMP12N60 / TMPF12N60	RoHS
TMP12N60G / TMPF12N60G	TO-220 / TO-220F	TMP12N60G / TMPF12N60G	Halogen Free

Absolute Maximum Ratings

Parameter	Symbol	TMP12N60(G)	TMPF12N60(G)	Unit	
Drain-Source Voltage	V_{DS}	600		V	
Gate-Source Voltage	V_{GS}	±30		V	
Continuous Drain Current	I_D	$T_C = 25 \text{ }^\circ\text{C}$	12	12*	A
		$T_C = 100 \text{ }^\circ\text{C}$	7.5	7.5*	A
Pulsed Drain Current (Note 1)	I_{DM}	48	48*	A	
Single Pulse Avalanche Energy (Note 2)	E_{AS}	860		mJ	
Repetitive Avalanche Current (Note 1)	I_{AR}	12		A	
Repetitive Avalanche Energy (Note 1)	E_{AR}	23.1		mJ	
Power Dissipation	P_D	$T_C = 25 \text{ }^\circ\text{C}$	231	53	W
		Derate above 25 $^\circ\text{C}$	1.85	0.42	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	TMP12N60(G)	TMPF12N60(G)	Unit
Maximum Thermal resistance, Junction-to-Case	R_{JC}	0.54	2.34	$^\circ\text{C}/\text{W}$
Maximum Thermal resistance, Junction-to-Ambient	R_{JA}	62.5	62.5	$^\circ\text{C}/\text{W}$

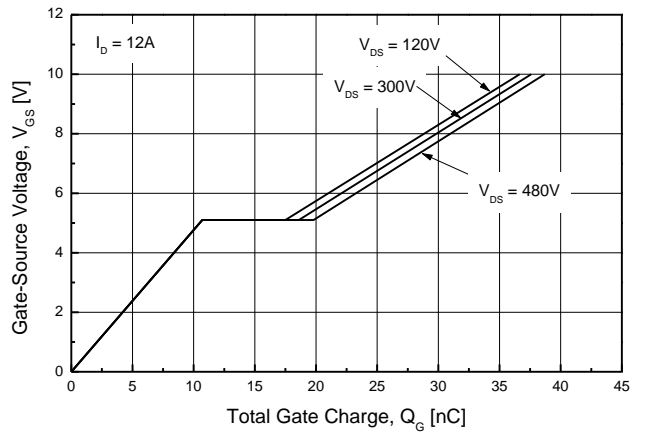
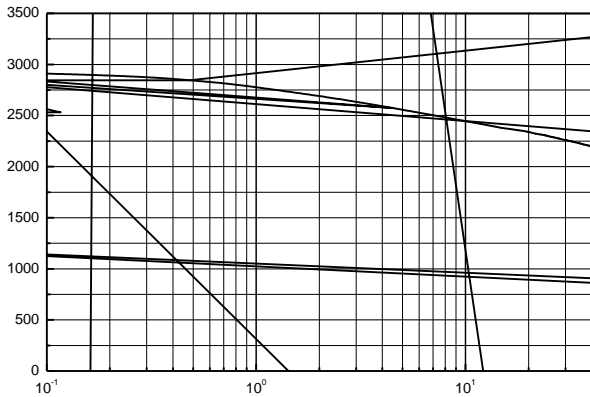
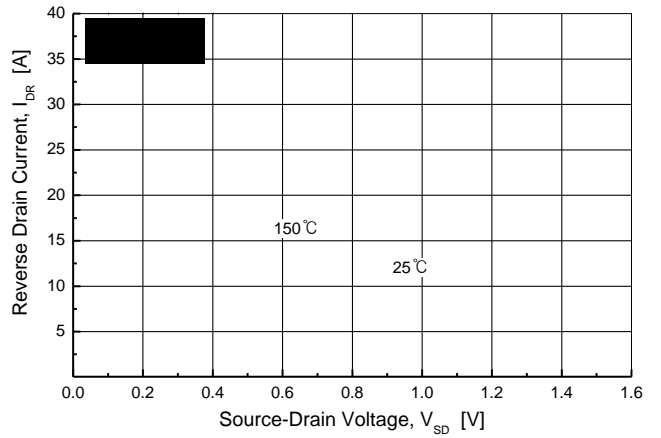
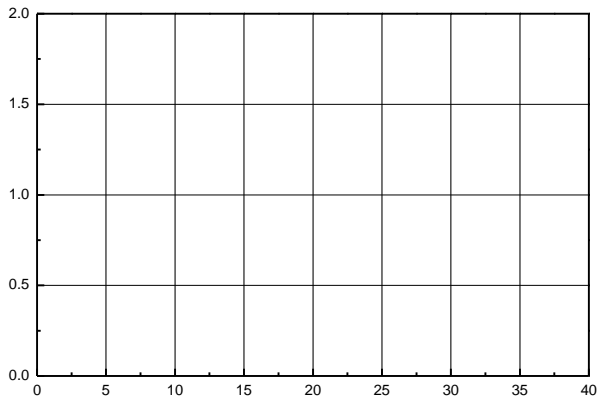
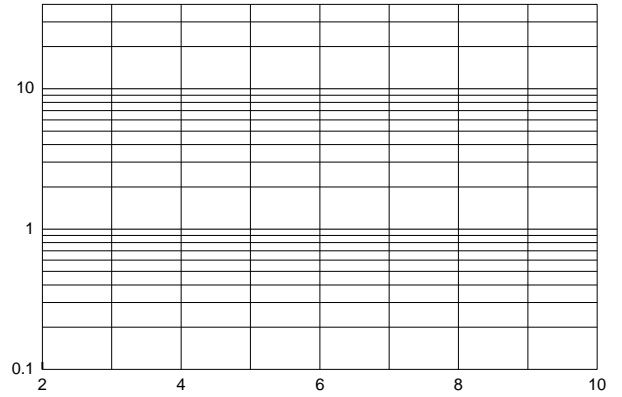
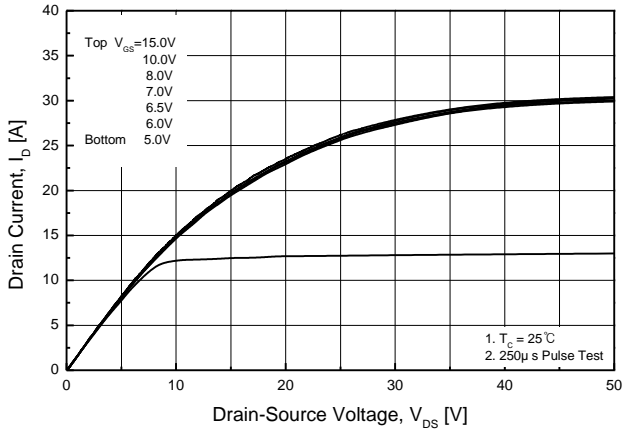
Electrical Characteristics : $T_C=25^\circ\text{C}$, unless otherwise noted

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Note :

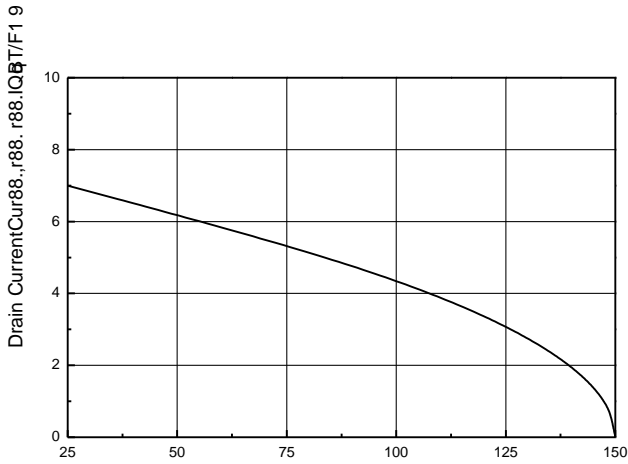
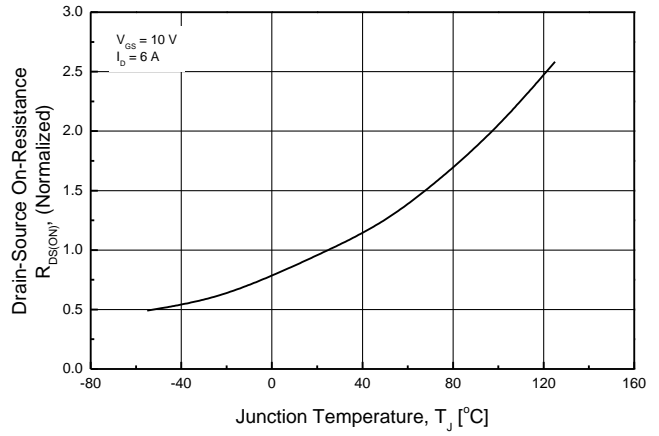
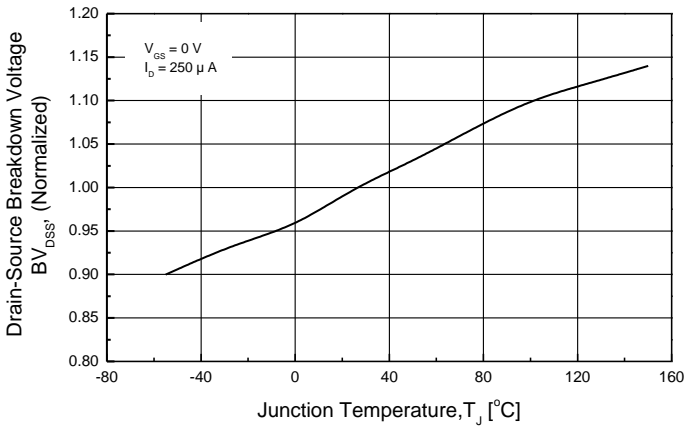
1. Repeated rating : Pulse width limited by safe operating area
2. $L=11\text{mH}$, $I_{AS} = 12\text{A}$, $V_{DD} = 50\text{V}$, $R_G = 25\ \Omega$, Starting $T_J= 25^\circ\text{C}$
3. $I_{SD} = 12\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$, $V_{DD} = BV_{DS}$, Starting $T_J= 25^\circ\text{C}$
4. Pulse Test :Pulse width $300\mu\text{s}$, Duty Cycle 2%
5. Essentially Independent of Operating Temperature Typical Characteristics

TMP12N60/TMPF12N60 TMP12N60G/TMPF12N60G

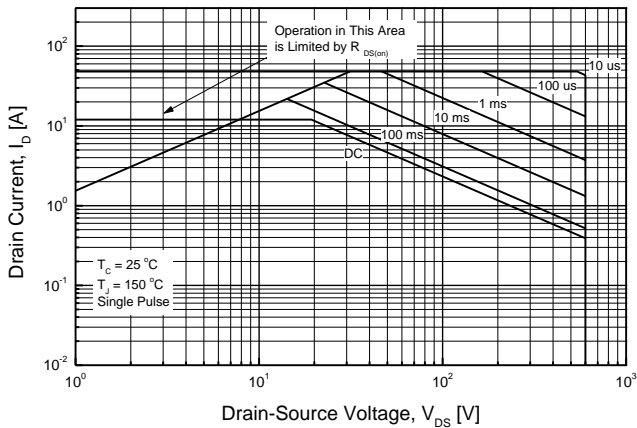


TMP12N60/TMPF12N60

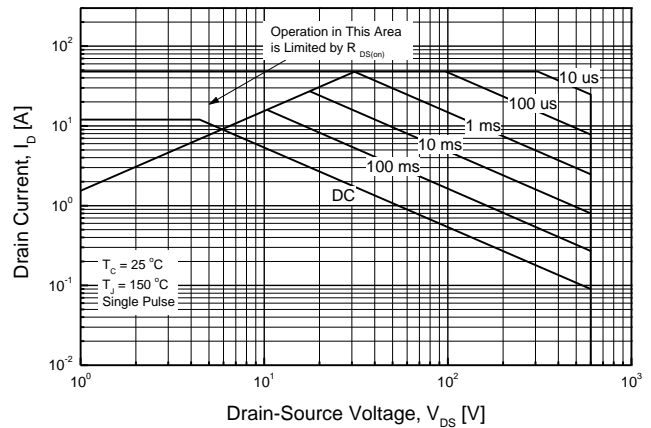
TMP12N60G/TMPF12N60G



TMP12N60(G)

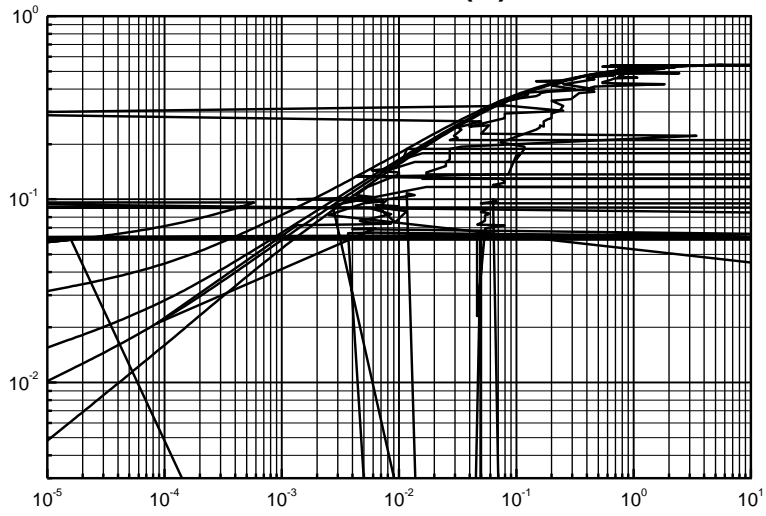


TMPF12N60(G)





TMP12N60(G)



TMPF12N60(G)

