

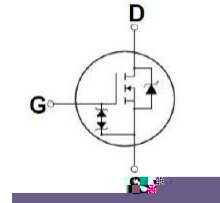
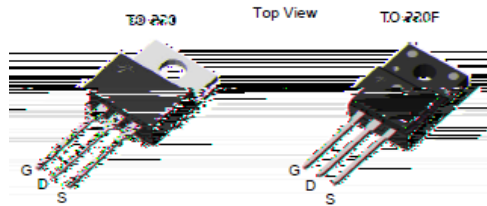
TMP830AZ(G)/TMPF830AZ(G)

Features

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

N-channel MOSFET

BV_{DSS}	I_D	$R_{DS(on)}$
500V	4.5A	<1.5 Ω



Device	Package	Marking	Remark
TMP830AZ / TMPF830AZ	TO-220 / TO-220F	TMP830AZ / TMPF830AZ	RoHS
TMP830AZG / TMPF830AZG	TO-220 / TO-220F	TMP830AZG / TMPF830AZG	Halogen Free

Absolute Maximum Ratings

Parameter	Symbol	TMP830AZ(G)	TMPF830AZ(G)	Unit	
Drain-Source Voltage	V_{DSS}	500		V	
Gate-Source Voltage	V_{GS}	30		V	
Continuous Drain Current	I_D	$T_C = 25$	4.5	4.5 *	A
		$T_C = 100$	3.27	3.27 *	A
Pulsed Drain Current (Note 1)	I_{DM}	18	18 *	A	
Single Pulse Avalanche Energy (Note 2)	E_{AS}	254		mJ	
Repetitive Avalanche Current (Note 1)	I_{AR}	4.5		A	
Repetitive Avalanche Energy (Note 1)	E_{AR}	9.84		mJ	
Power Dissipation	P_D	$T_C = 25$	98.4	32.9	W
		Derate above 25	0.78	0.26	W/
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			
Maximum lead temperature for soldering purposes,	T_L	300			

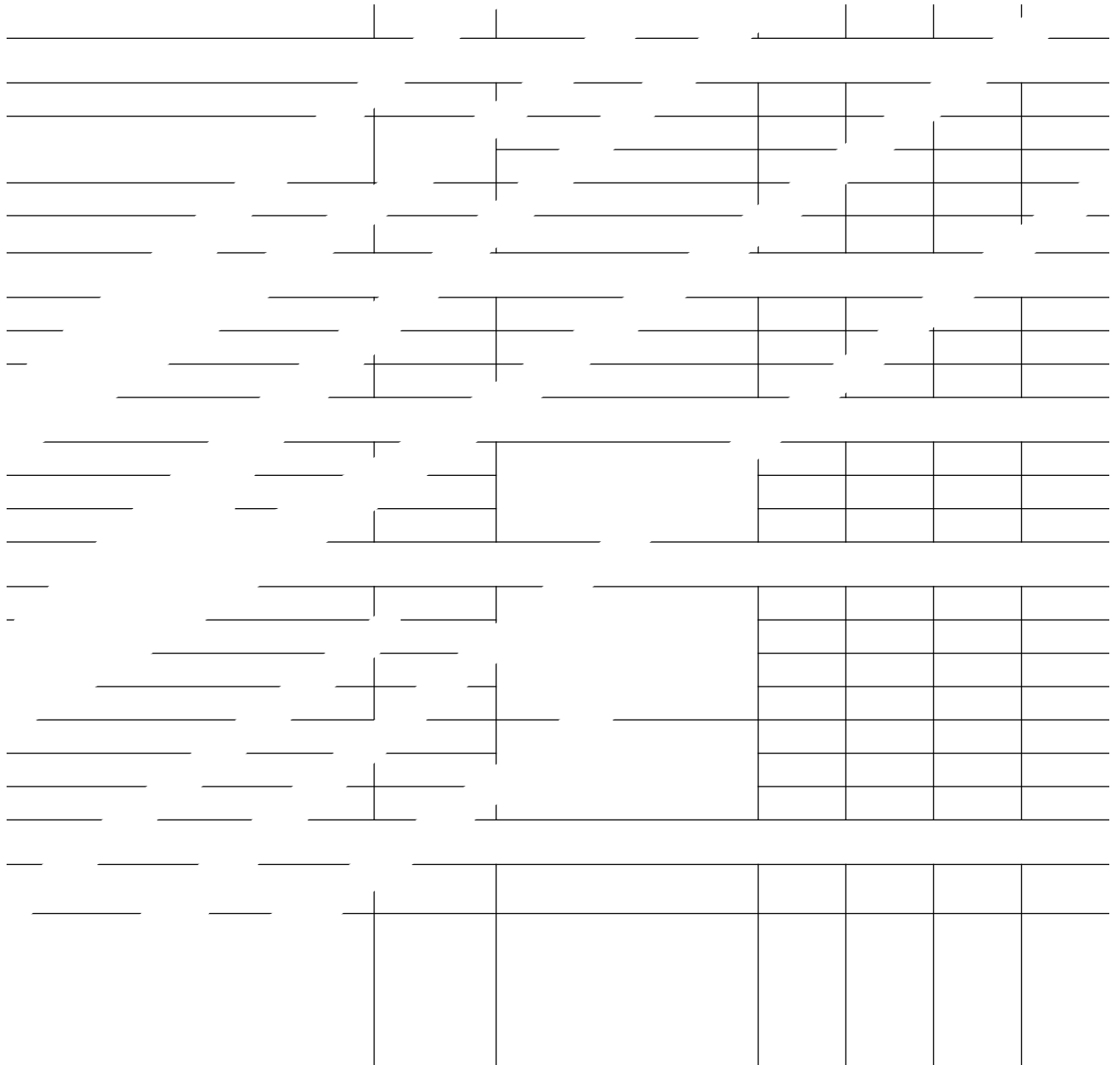
* Limited only by maximum junction temperature

Thermal Characteristics

Parameter	Symbol	TMP830AZ(G)	TMPF830AZ(G)	Unit
Maximum Thermal resistance, Junction-to-Case	$R_{\theta JC}$	1.27	3.8	/W
Maximum Thermal resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	62.5	/W



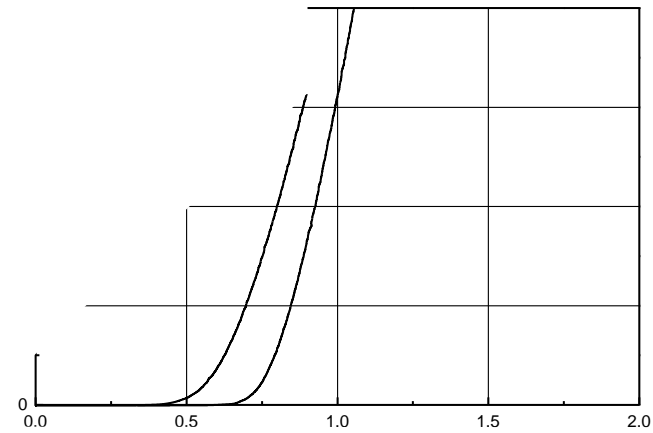
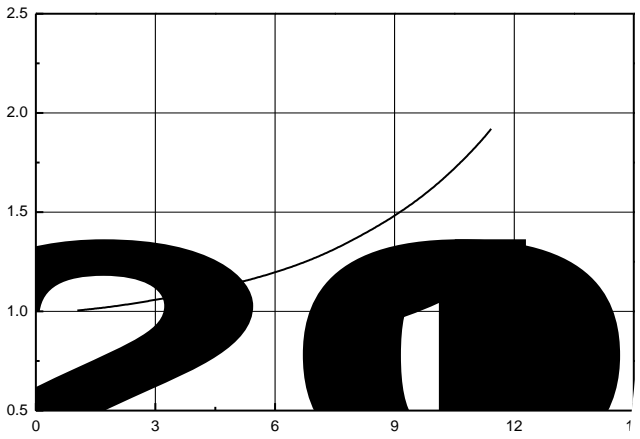
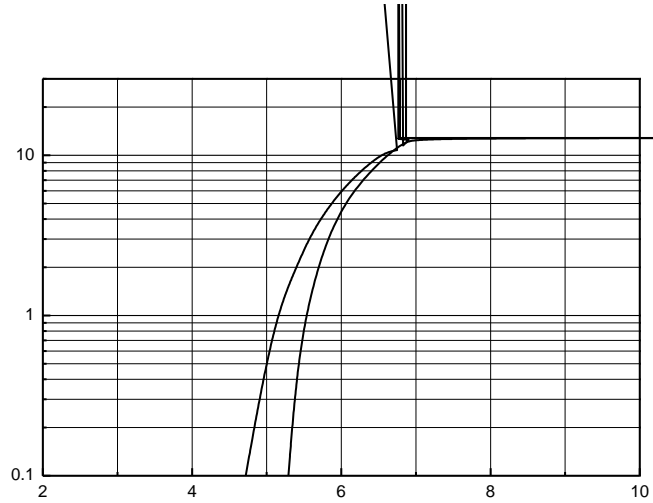
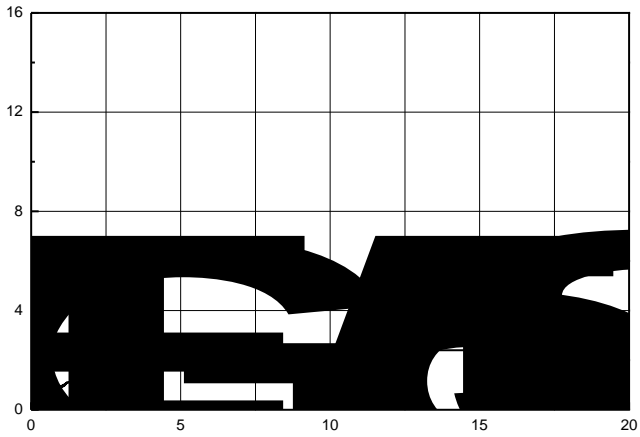
Electrical Characteristics : T_C=25 , unless otherwise noted



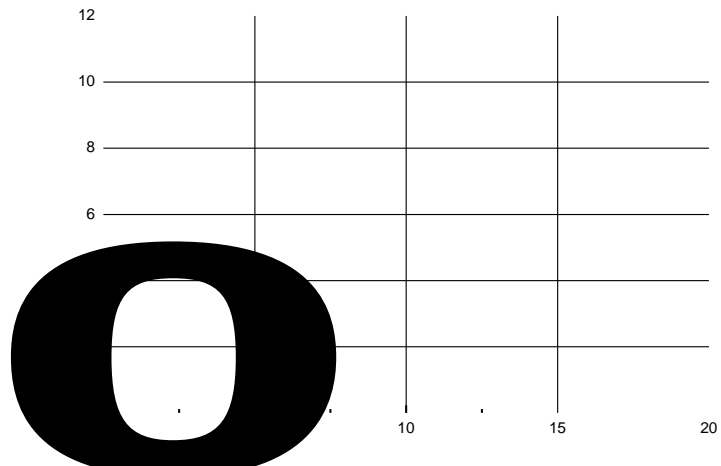
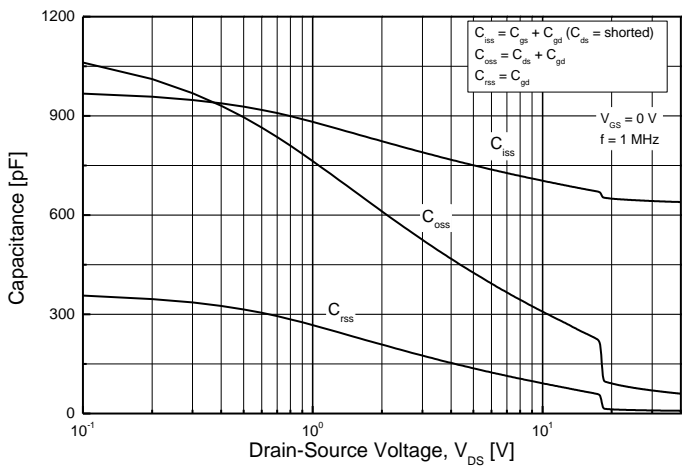
- 1. Repeated rating : Pulse width limited by safe operating area
- 2. L=22.6mH, I_{AS} = 4.5A, V_{DD} = 50V, R_G = 25 , Starting T_J= 25
- 3 I_{SD} 4.5A, di/dt μs , V_{DD} μs, V_{DS}, Starting T_J= 25
- 5. Essentially Independent of Operating Temperature Typical Characteristics



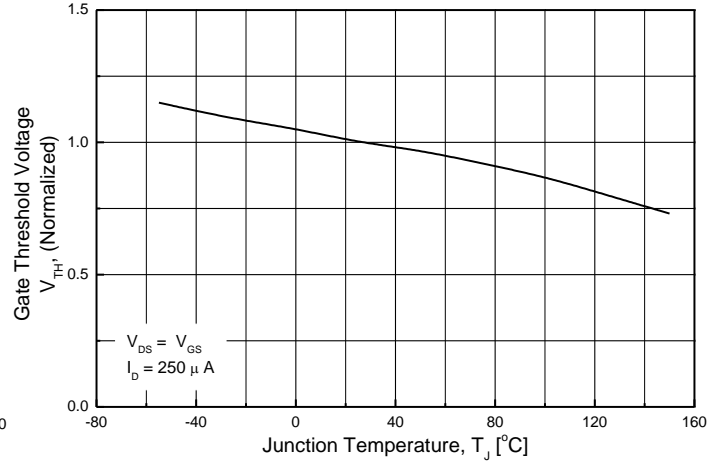
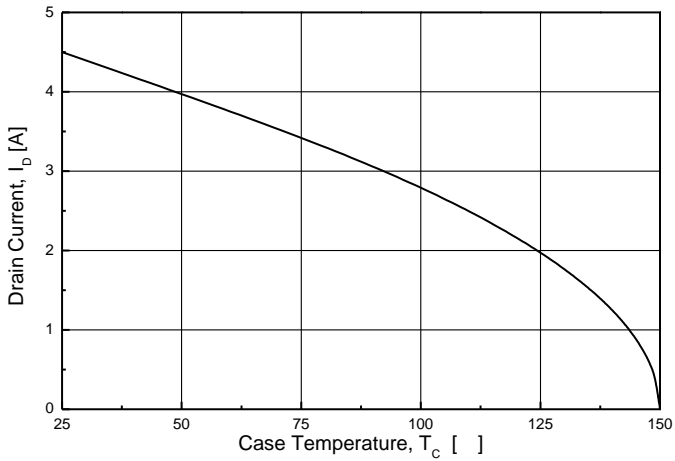
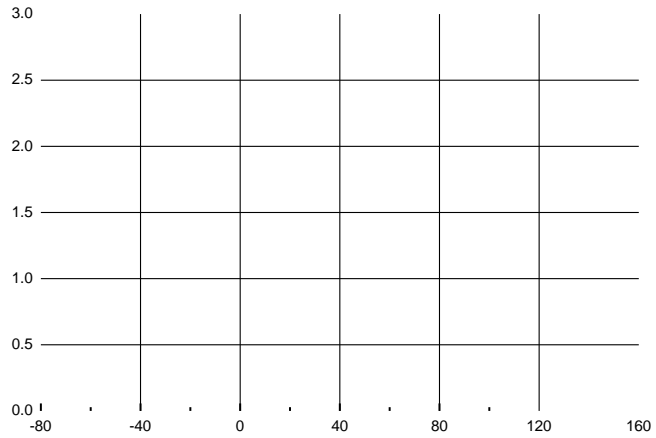
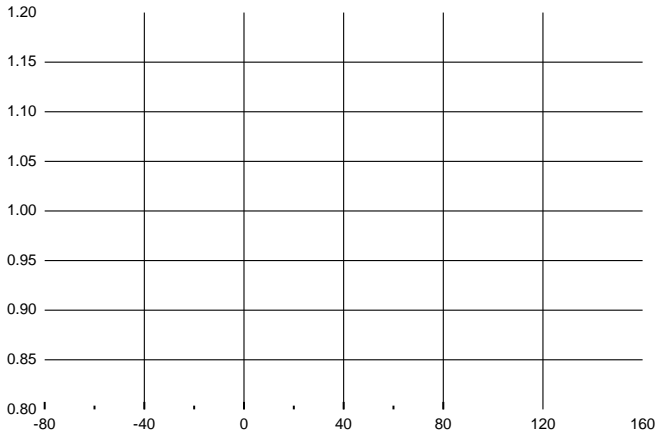
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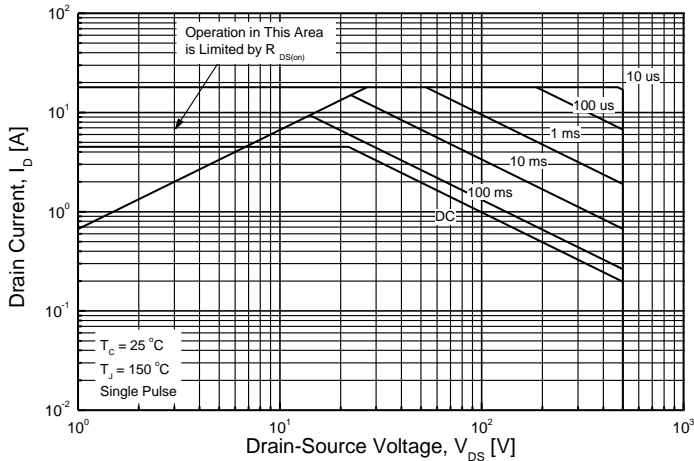
Drain-Source Voltage vs. Drain Current



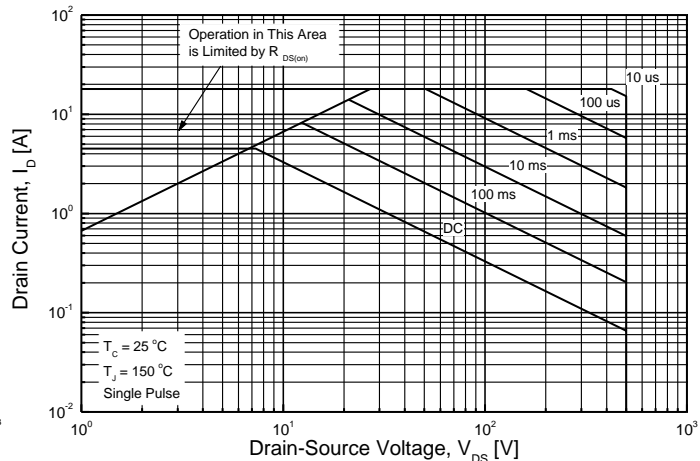
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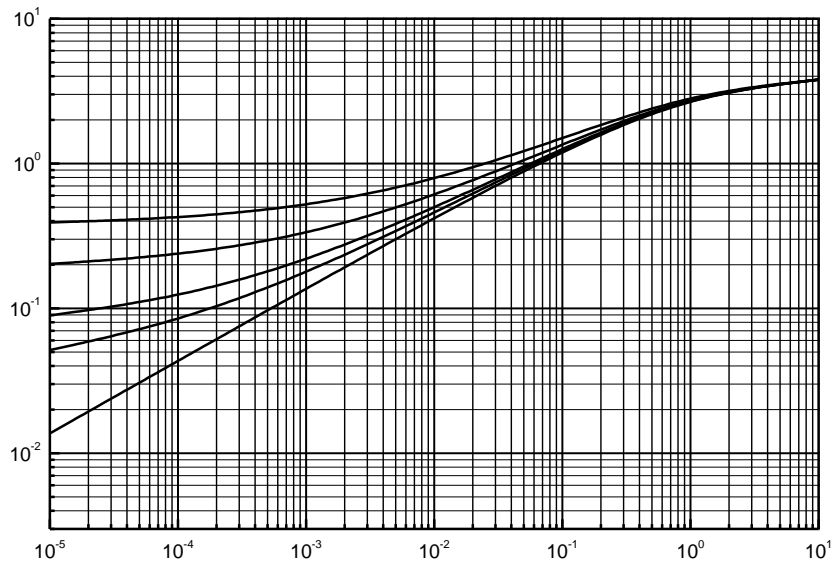
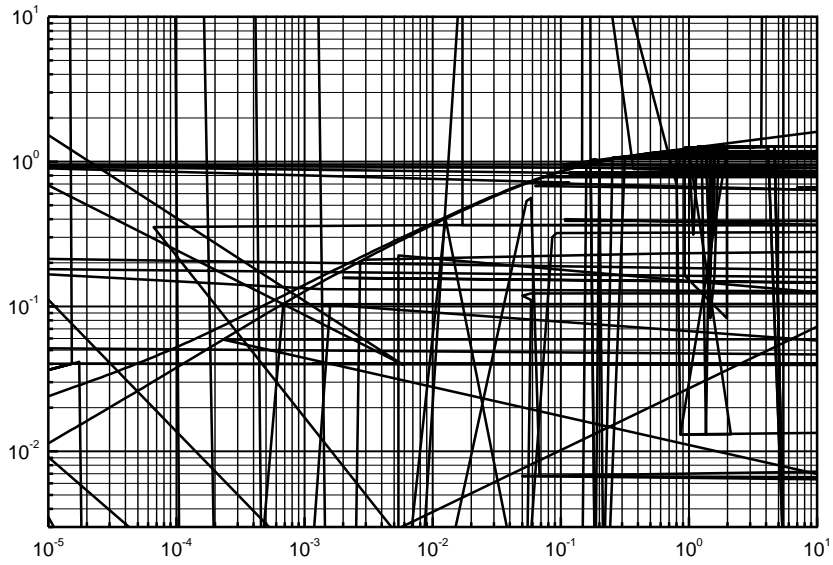


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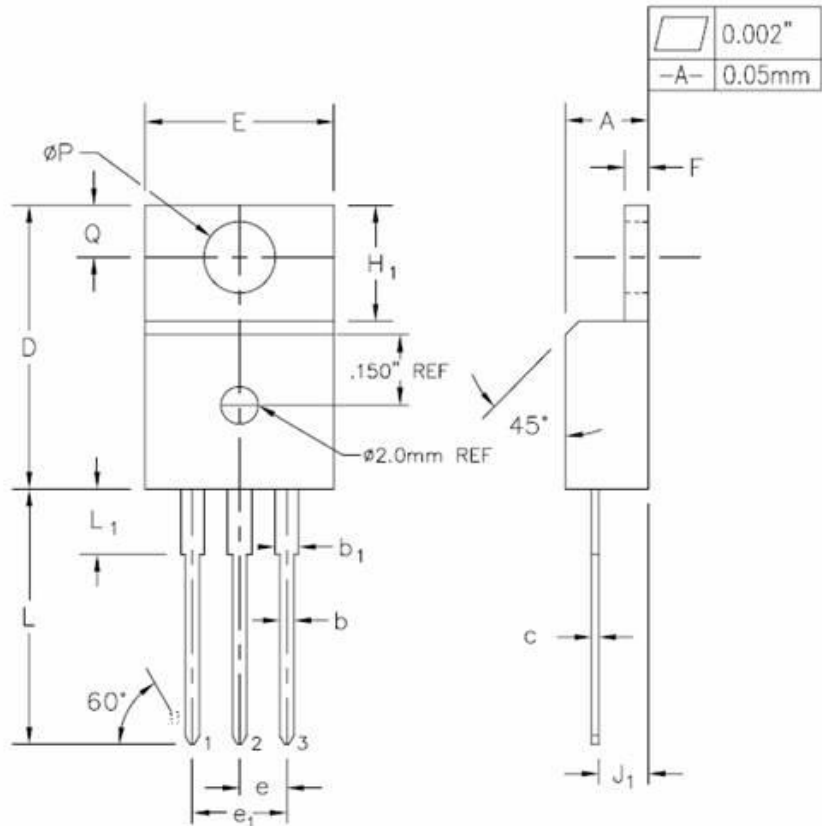


TMPF830AZ(G)





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	1.17	3.70	3.98
Q	0.102	0.112	2.60	2.84	

