

FOTOFET™
SILICON EPITAXIAL JUNCTION
N-CHANNEL FIELD EFFECT TRANSISTOR

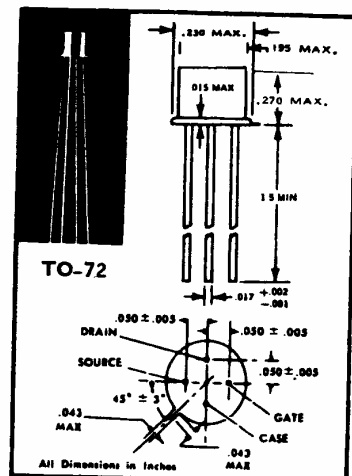
FF 108

GEOMETRY 282

- HIGH SENSITIVITY
- LOW DARK CURRENT
- FAST RESPONSE
- PHOTOTUBE REPLACEMENT
- FLAT GLASS TOP FOR EXTERNAL OPTICS

ELECTRICAL DATA ABSOLUTE MAXIMUM RATINGS

Drain to Source Voltage	BV _{DSO}	15 Volts
Drain to Gate Voltage	BV _{DGO}	15 Volts
Gate to Source Voltage	BV _{GSO}	-10 Volts
D.C. Forward Gate Current	I _{GF}	50 mA
Junction Temp. (operating and storage)	T _J	-65°C to +200°C
Power Dissipation (free air)	P _D	400mW
Lead Temp. (@ 1/16" ± 1/32" from case)	T _L	240°C for 10 sec.
Derating Factor From 200°C	D _F	0.43°C/mW



ACTIVE AREA .0013 SQ. CM.
 AT DIE SURFACE SENSITIVITY - .3μA/μW

ELECTRICAL CHARACTERISTICS: T_A = 25°C

PARAMETER	SYMBOL	CONDITION	FF 108			UNITS
			Min.	Typ.	Max.	
Gate Sensitivity ⁴	S _G	V _{DS} = 10V, V _{GS} = 0, λ = .9 microns	1.5	3.0	4.5	μA/mW/cm ²
Gate Current (Light) ¹	I _{lg}	V _{DS} = 10V, V _{GS} = 0V	3.0	6.0	9.0	nA/FC
Drain Sensitivity ⁵	S _D	V _{DS} = 10V, V _{GS} = 0, R _G = 1MΩ	-	4.5	-	mA/mW/cm ²
Drain Current (Light) ¹	I _{ld}	V _{DS} = 10V, V _{GS} = 0V, R _G = 1MΩ	-	15	-	μA/FC
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 10V, V _{GS} = 0	0.8	3.0	5.0	mA
Transconductance	g _m	V _{DS} = 10V, V _{GS} = 0, f = 1 kHz	800	-	-	μmho
Rise Time ²	T _R	V _{DS} = 10V, R _L = 1K, R _G = 1K	-	30	-	nsec
Fall Time ³	T _F	V _{DS} = 10V, R _L = 1K, R _G = 1K	-	50	-	nsec
Pinch-Off Voltage	V _{PO}	V _{DS} = 10V, I _{DS} = 0.1μA	1.0	3.0	6.0	Volts
Gate to Source Cap.	C _{GS}	V _{GS} = -10V, f = 140 kHz	-	-	8.0	pf
Gate to Drain Cap.	C _{GD}	V _{GD} = -10V, f = 140 kHz	-	-	5.0	pf
Gate Leakage Current (Dark)	I _{GSS}	V _{GS} = -10V, V _{DS} = 0	-	0.05	1.0	nA
On Resistance	R _{DS}	V _{DS} = 0.1V, V _{GS} = 0	-	1K	-	Ohms

¹ Tungsten Lamp 2800° K Color Temp. ² Ga As Diode Source ³ Directly Proportional to R_G
⁴ Gate Current per unit Radiant Power Density at Lens Surface ⁵ Drain Current per unit Radiant Power Density (λ = 0.9 microns)

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