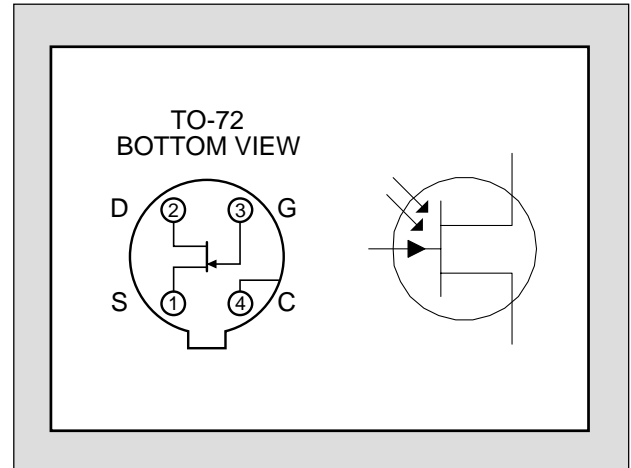


# LS627

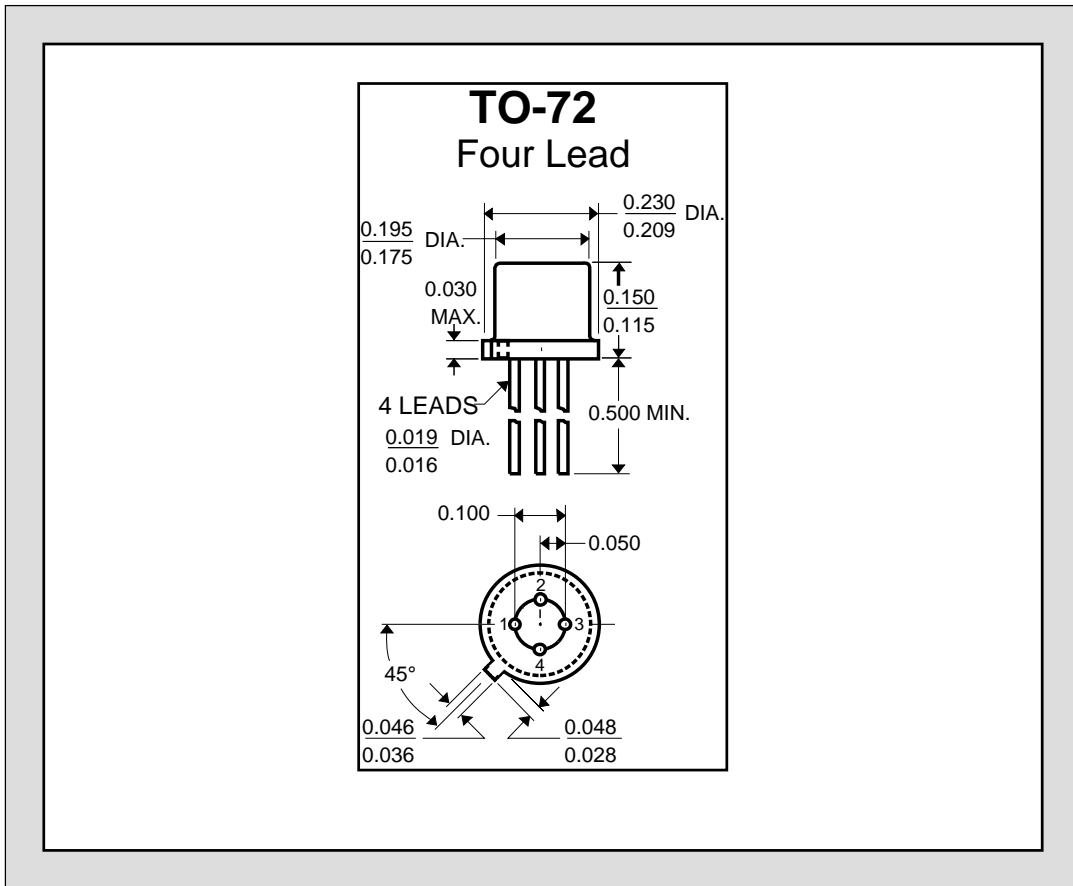
## PHOTO FET LIGHT SENSITIVE JFET

FEATURES	
DIRECT REPLACEMENT FOR CRYSTALONICS FF627	
FLAT GLASS TOP FOR EXTERNAL OPTICS	
ULTRA HIGH SENSITIVITY	
ABSOLUTE MAXIMUM RATINGS <sup>1</sup>	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-65 to +200 °C
Operating Junction Temperature	-55 to +165 °C
Maximum Power Dissipation	
Continuous Power Dissipation	400mW
Maximum Currents	
Gate Current	50mA
Maximum Voltages	
Drain to Source	15V
Drain to Gate	15V
Gate to Source	-10V



### ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$V_{GS(off)}$	Gate to Source Cutoff Voltage ( $V_{PO}$ )	1.0		5.0	V	$V_{DS} = 10V, I_D = 0.1\mu A$
$S_G$	Gate Sensitivity <sup>2</sup>	6.4		24	$\mu A/mW/cm^2$	$V_{DS} = 10V, V_{GS} = 0V, \lambda = 0.9\mu m$
$S_D$	Drain Sensitivity <sup>3</sup>		500		$mA/mW/cm^2$	$V_{DS} = 10V, V_{GS} = 0V, R_G = 1M\Omega$
$\lambda_{ig}$	Gate Current (Light) <sup>4</sup>	10		37.5	nA/FC	$V_{DS} = 10V, V_{GS} = 0V$
$\lambda_{id}$	Drain Current (Light) <sup>4</sup>		800		$\mu A/FC$	$V_{DS} = 10V, V_{GS} = 0V, R_G = 1M\Omega$
$I_{DSS}$	Drain Saturation Current	8.0			mA	$V_{DS} = 10V, V_{GS} = 0V$
$I_{GSS}$	Gate Leakage Current (Dark)			30	pA	$V_{GS} = -10V, V_{DS} = 0V$
$g_{fs}$	Forward Transconductance ( $g_m$ )	8000			$\mu S$	$V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$
$R_{DS(on)}$	Drain to Source On Resistance		100		$\Omega$	$V_{DS} = 0.1V, V_{GS} = 0V$
$C_{GS}$	Gate to Source Capacitance			35	pF	$V_{GS} = -10V, f = 140kHz$
$C_{GD}$	Gate to Drain Capacitance			20		$V_{GD} = -10V, f = 140kHz$
$t_r$	Rise Time <sup>5</sup>		30		ns	$V_{DS} = 10V, R_L = R_G = 100\Omega$
$t_f$	Fall Time <sup>6</sup>		50			



#### NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Gate Current per unit Radiant Power Density at Lens Surface
3. Drain Current per unit Radiant Power Density ( $\lambda = 0.9\mu\text{m}$ ).
4. Tungsten Lamp 2800°K Color Temperature.
5. GaAs Diode Source.
6. Directly Proportional to  $R_G$ .
7. Not production tested. Guaranteed by design.

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