

Справ. №

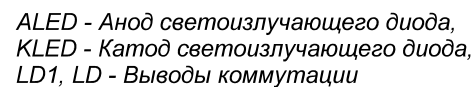
Подп. и дата

Инв. № дубл.

Взам. инв. №

Подп. и дата

Инв. № подл.



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.IC V(ALLED)=0 V(KLED)=0 V(GATE)=0 V(GATE1)=0
.SUBCKT 2M419A1 ALED KLED LD1 LD2
Cpr ALED GATE 3p
D1 ALED L LED
Vsen L KLED 0
F1 LD2 GATE Vsen 0.03
RG GATE GATE1 3k
D2 GATE 1 PHOTO
D3 1 2 PHOTO
D4 2 3 PHOTO
D5 3 4 PHOTO
D6 4 5 PHOTO
D7 5 6 PHOTO
D8 6 7 PHOTO
D9 7 8 PHOTO
D10 8 9 PHOTO
D11 9 10 PHOTO
D12 10 11 PHOTO
D13 11 12 PHOTO
D14 12 13 PHOTO
D15 13 LD2 PHOTO
M1 LD1 GATE1 LD2 LD2 BS170
W_ W01 GATE1 LD2 Vsen W1
DPR LD2 LD1 DPRB
.MODEL W1 ISWITCH (Roff=100 Ron=100meg IT=1u Td=1n)
.MODEL BS170 NMOS ( CBD=44.0908P CGDO=750N CGSO=750N GAMMA=0 GDSNOI=0
+ IS=10F JS=10N KP=110U L=1u LAMBDA=355.328F NSUB=10e20 PHI=600M RDS=1000MEG
+ RG=1 TOX=10n TPG=1 UO=600 VTO=1.5961 W=60.08709M RD=0.03 )
.MODEL LED D (IS=0.0000005203f N=1.1204049 RS=1.35 BV=6 IBV=10U
+ CJO=50P EG=1.7 TT=500N)
.MODEL PHOTO D(Is=2.682n N=1.836 Rs=.5664 Ikf=44.17m Xti=3 Eg=1.11 Cjo=4p
+M=.3333 Vj=.5 Fc=.5 Isr=1.565n Nr=2 Bv=6 Ibv=100u Tt=11.54n)
.MODEL DPRB D(Bv=65 TBV1=0.0005)
.ENDS
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[illegible]