

7 Y V J E S M R X P X M I P V E ] Q W M G E T E G M X I S I V O W W

Electronic Component

/47 ,: 0 E V K I ' E W I 7 1 7 I V M I W < i : ( ' - R H Y W X V M E P + V E H I



Overview

/47,: /)1) & S [ I W S P Y X M & B W X D I E I V K I Q Q S J F S E W I G E T E E I E R I M M I F S I ( X 7 6 ) 7 O E R H ' E W E 7 1 7 I V M I W E G M E T E G M X I S I V O W W M I K G W M I N R X G G E T E V E F I M I P G S Q T E S I X L I V H I W M X K I H X S F Y W X S V Q V E X F E R I M E U Y H W W H M I P I G S R Y X G M S R W M I R M K V I R M E V F R M P Y W X J T P M I E G E X X M P S V E M R K J V E Q I G L R S P S I K I N H I I W M I G W S P L O X I P X M P ' S ] Q F M I R M X I L W X E I S E R M O H M I P I G X M W I G G I V E Q M G S Q T S R M S O L T V M B X I N V G S Y E W X I , M K S P X E K I I V N H I I W M I G U W E T M X H M G X E R K I I T V S Z M H O E R K G G H L E F E R X G I E I V Q X P T I W W S V M G E T E G M X X I R V G T X S M O R Z I S P X E R I F I S E W X Q E R G W S P S X M S L R S Q T S R P E X S H V I W W I E O M R I G Q E R I G E T E G M X X I R V G R X S Q F M I R X G S R G J S E R Y W M O M P G V S R I S S R I M E G E S G G Y V X I Q T I V E X T E G M X I E R R O R M Q M S I H V S Q [ L I E F M Z S P X W E T I T P M P H X L S Y X I I G L R S P S K ] q ' S q ' H S I R S R M Q M R T E S X I R J S O M I E G L E R H E G E R I X L O X J V S T E H Y E V M X R K I O R I Z M V S F E R I H E R E P 1 ) 8 W R H Y W X V I M E S H S G J W H M X M G S R I E R P M R H P I G S R H M K S S R Q S R W X Y E I X I W S S V Q E S T G M S L R M K V I R M E F T M P M E S X M S P W R H S Z R S R M W S J P E X X M P I E R S X I S V Q O H + V S X T I W X M R K I R X M T S O X M S R i E V I E R H P I E G S R K Y V B X I V S R I W M S G J W V S E Z E M P S X L P 1 7 I V M I W

& I R I X W

- u — X q S q ' S T I V E X I M R K V E E R K I I
u O E W T M W z
u \* S V q q S H q P E H J V G B # K Y V E X M S R W
u + V S E R T & W G I R M R I K i 4 6 \* i E Z M P E F P I
u 6 I P M E V F S Y W E X H J V X V Q M R W M S R
u ( Z B X E M B K W : / : / : / : / :
7.5 KV, and 10 KV
u ' E T E G S J K E R M E K M I R C S T \* Y T S q \*

3 V H I V M R K - R J S V Q E X M S R

Table with 7 columns and 3 rows, mostly empty cells.



5 Y E P M α G E X M S R ' I V X M α G E X M S R

- R H Y W X Z T N E S P H E Q W Y F N S G R X U V R E F P M α ( G E X M S R V X I M Q K K L S E H R G M S R H N E X M I S R W R G I H M S R E F P 4 I V S V Q E B Q P I M E F M P M X ]

) R Z M V S R Q I R X E P ' S Q T P M E R G I

6 S , 7 S Q T P M E X L Q T X M S R W

) P I G X V M G E P 4 E V E Q I X I V W ' L E V E G X I V M W X M G W

- X I Q	4 E V E Q I X I V W ' L E V E G X I V M W X M G
3 T I V E X I M Q F I K V E X E Y R M I	q ' X S q ' r
' E E G M X E R R Q I X 6 U I V I R G S I q ' E R : ( ' % T P M 8 H	r
% R M E X I	





8EFPI & i 'ETEGMXERGI 6ERKI 7IPIGXMSR ;EXIVJEPP 71

7X]PI 7M^I 71	71	71	71
(MQIRWMSEWQ)			
0IRKXL	r	r	r
;MHXL	r	r	r
8LMGOR 1E\MQYC	0.220	0.220	0.140
0IEH ;MH 1E\MQYC	0.400	0.500	0.100
0IEH 0IRK 0	r	r	r
0IEH 0IRK .	r	r	r
X7R Dielectric			
:SPXEKI '501	501	501	501
:SPXEKI (500 1K / 3K / 5K	500 1K / 3K / 5K	500 1K / 3K / 5K	500 1K / 3K / 5K
Capacitance	Capacitance Code		
1.0 µF	105	105	
1.2 µF	125	125	
1.5 µF	155	155	
1.8 µF	185	185	
2.2 µF		225	
2.7 µF		275	
2.9 µF		295	

8EFPI ' i 'ETEGMXERGI 6ERKI 7IPIGXMSR ;EXIVJEPP 71







8EFPI i 'LMT 8LMGORIWW 4EGOEKMRK 5YERXMXMIW

7IVMIW 7X]PI	SM20 SM21 SM22 SM23 SM24 SM25 SM26 SM30 SM31 SM33 SM34 SM35 SM36	8VE]	8VE]
		1MRMQYQ	1MRMQYQ
SM	SM20	1	50
	SM21		
	SM22		
	SM23		
	SM24		
	SM25		
	SM26		
	SM30		
	SM31		
	SM33		
	SM34		
	SM35		
SM36			
			25
			10

1 1MRMQYQ SVHIV ZEPYI ETPMIW 'SRXEGX /)1)8 JSV HIXEMPW

7SPHIVMRK 4VSGIWW

8LGETE GMRHSWWQSFYXPMWR LMIW  
 WTIGM VCIEKMSRWGITXMIWMEBGO  
 HEQBKXSLIMEVGIQEIVQ TIVIEXYV  
 TVS WYVWHLSTVZSMIEHIU XE QITIV E MVRH  
 GSSP XISPSZIRHEQEKISQIVQEBGRO  
 KIRIVEIP 8VIGSQQEKIEWBRMSPHJSMRK  
 XLIWJITSWPEGKMEQZGIGIW

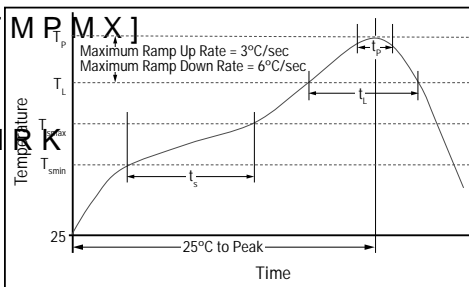
6IGSQQRHIIH 6IYS[ 7SPHIVMRK 4V

4VSPPI *IEXYVI 7R4F %WWIQFP]	
4VILIE X 7SEC	
8IQTIVEIXMRMI QBYQ	q'
8IQTIVEIXMWOYQ	q'
8MQXJV SW QMR	i WGSRHW
6EQT 6X 8to T <sub>p</sub>	q' WIGSRHW
0MUYNHCSYV XBYVI	q'
8MQISZOMYMHXYW	95 seconds
4IEQ TIVE XBYVI	q'
8MQKLMRSJEMQYEO	5 seconds
8MQIq'XSE Q TIVE XBYVI	q' WIGSRHW
SR 6EQT HST R8to T <sub>L</sub>	q' WIGSRHW
8MQIq'XSE Q TIVE XBYVI	QRYXIW

6IGSQQRHIIH 7SPHIVMRK 8IGLRMU YI  
 u7 PHVVS SRP

4VILIE X RBRKS4V S2BKIW  
 (YIX SIMUR GMR LGSIJ α SM LR XQE ER WM  
 JSXLHMJR QVE XIVS GSPRW X WIKVX M XSI G  
 QSR NRGS R XMS E X ERKS S R V RHW MRK  
 XLW SPHTV B(KWWRVKI ≠ SV SPHTV SE KWV  
 XLQE \MQYQSQQ ILRIE HMRKS S R V RHW  
 HXWV' WIGSRHW SVKGCSEPT SVRIIRK E F  
 /)1)8 WGSQQ ILRIE HMRKS S R V RHW  
 WIGSRHW S PHKLE RKE GMLSSVEMV  
 GSSR SHSQQ TIVE KJSMIV XVISGIWW M  
 \*SVGEINVS S R V RHW G SQQRHIIH


2SXI %PP XIQTIVEXYVIW VIJIV XS XLI GIRX  
 XLI TEGOEKI FSH] WYVJEGI XLEX MW JEGMRK





' S R W X V Y G X M S R

Dielectric  
Material (BaTiO<sub>3</sub>)



/)1)8 )PIGXVSRMG 'SVTSVEXMSR 7EPIW 3J $\alpha$  GIW

\*SV E GSQTPIXI PMWX SJ SYV KPSFEP WEPIW SJ $\alpha$  GIW TPIEWI ZMWMX

(MWGPQMIV

%PP TVSHYGX WTIGM $\alpha$  GEXMSRW WXEXIQIRXW MRJSVQEXMSR ERH HEXE GSPPIGXZIP] XLI p  
GLIGOMRK ERH ZIVMJ]MRK XLI I\XIRX XS [LMGL XLI -RJSVQEXMSR GSRXEMRIH MR XLMW TYFPMO  
%PP -RJSVQEXMSR KMZIR LIVIMR MW FIPMIZIH XS FI EGGYVEXI ERH VIPMEFPI FYX MX MW TVIW  
7XEXIQIRXW SJ WYMXEFMPMX] JSV GIVXEMR ETTPMGEXMSRW EVI FEWIH SR /)1)8 )PIGXVSRMGW  
ETTPMGEXMSRW FYX EVI RSX MRXIRHIH XS GSRWXMXYXI i ERH /)1)8 WTIGM $\alpha$  GEPP] HMWGPQM  
8LI -RJSVQEXMSR MW MRXIRHIH JSV YWI SRP] F] GYWXSQIVW [LS LEZI XLI VIUYMWMXI I\TIVMIR  
XIGLRMGEP EHZMGI MRJIVVIH JVSQ XLMW -RJSVQEXMSR SV SXLIV[MWI TVSZMHIH F] /)1)8 [MXL  
SFPMKEXMSR SV PMEFMPMX] JSV XLI EHZMGI KMZIR SV VIWYXPW SFXEMRIH  
%PXL SYKL /)1)8 HIWMKRW ERH QERYJEGXYVIW MXW TVSHYGXW XS XLI QSWX WXVMRKIRX UYEP  
JEMPYVIW QE] WXMPP SGGYV %GGSVHMRKP] GYWXSQIV ETTPMGEXMSRW [LMGL VIUYMVI E LMK  
WYGL EW MRWXEPPEXMSR SJ TVSXIGXMZI GMVGYMXV] SV VIHRRHERGMIW MR SVHIV XS IRWYV  
TVSTIVX] HEQEKI  
%PXL SYKL EPP TVSHYGXiVIPEXIH [EVRMRKW GEYXMSRW ERH RSXIW QYWX FI SFWIVZIH XLI GY  
QIEWYVIW QE] RSX FI VIUYMVIH

/)1)8 MW E VIKMWXIVIH XVEHIQEVO SJ /)1)8 )PIGXVSRMGW 'SVTSVEXMSR