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UF1600CT~UF1608CT

ULTRAFAST RECOVERY RECTIFIERS

VOLTAGE 50 to 800 Volt **CURRENT** 16 Ampere

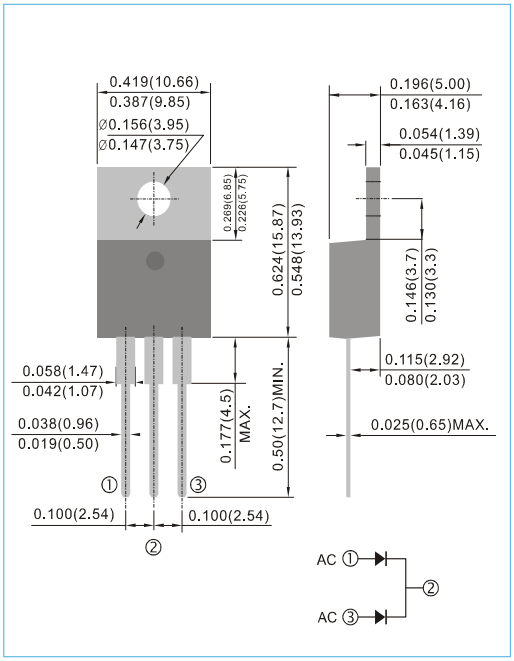
FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- Ultra fast recovery times, high voltage.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANCAL DATA

- Case: TO-220AB plastic package
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.067 ounces, 1.89 grams.

TO-220AB Unit : inch(mm)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

PARAMETER	SYMBOL	UF1600CT	UF1601CT	UF1602CT	UF1603CT	UF1604CT	UF1606CT	UF1608CT	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	V
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	V
Maximum Average Forward Current at T_C = 100°C	$I_{F(AV)}$	16							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125							A
Maximum Forward Voltage at 8A	V_F	1			1.3		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage T_J=25°C / T_J=125°C	I_R	1 / 500							μA
Typical Junction Capacitance (Note 1)	C_J	170					130		pF
Maximum Reverse Recovery Time (Note 2)	t_{rr}	50					100		ns
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2							°C / W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +150							°C

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4 VDC.
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, Irr=0.25A.
3. Thermal resistance from Junction to case.

UF1600CT~UF1608CT

RATING AND CHARACTERISTIC CURVES

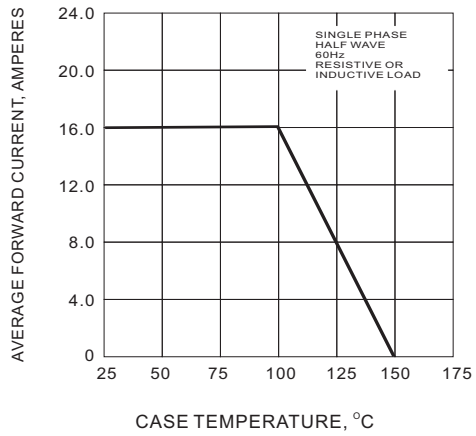


Fig.1 FORWARD CURRENT DERATING CURVE

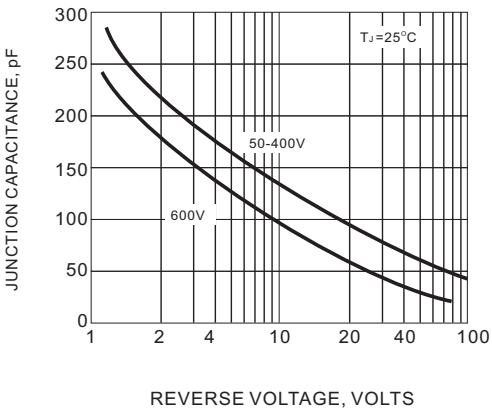


Fig.2 TYPICAL JUNCTION CAPACITANCES

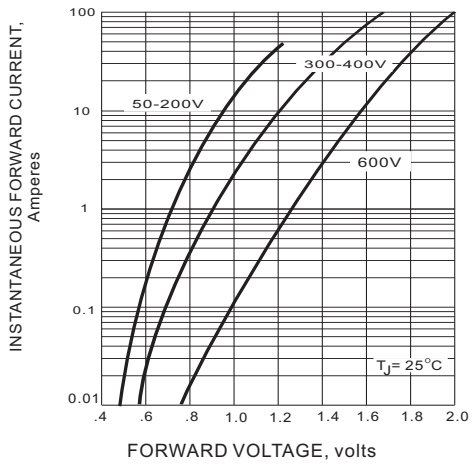


Fig.3 FORWARD CHARACTERISTICS

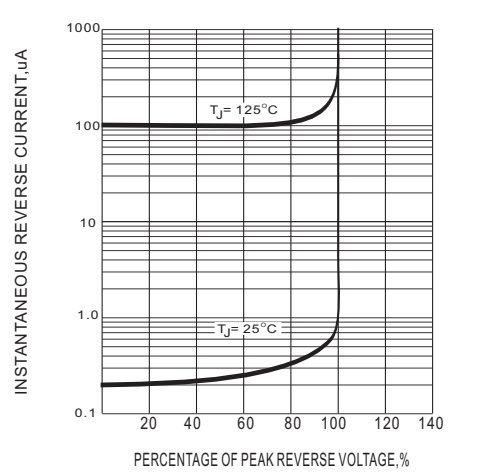


Fig.4 TYPICAL REVERSE CHARACTERISTICS

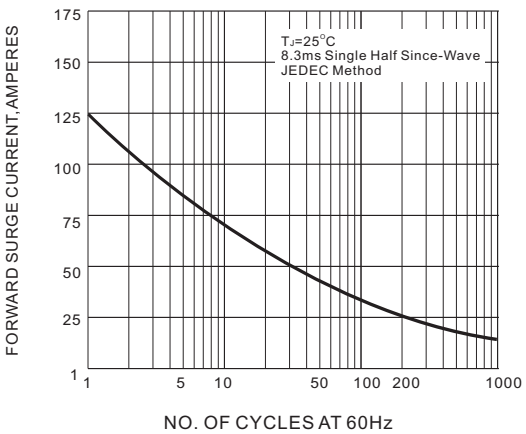


Fig.5 PEAK FORWARD SURGE CURRENT

UF1600CT~UF1608CT

Part No_packing code_Version

UF1600CT_T0_00001

For example :

RB500V-40_R2_00001

- RB500V-40 — Part No.
- R2 — Packing type means T/R
- R2 — Packing size code means 13"
- 00001 — Version code means HF
- 00001 — Serial number

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

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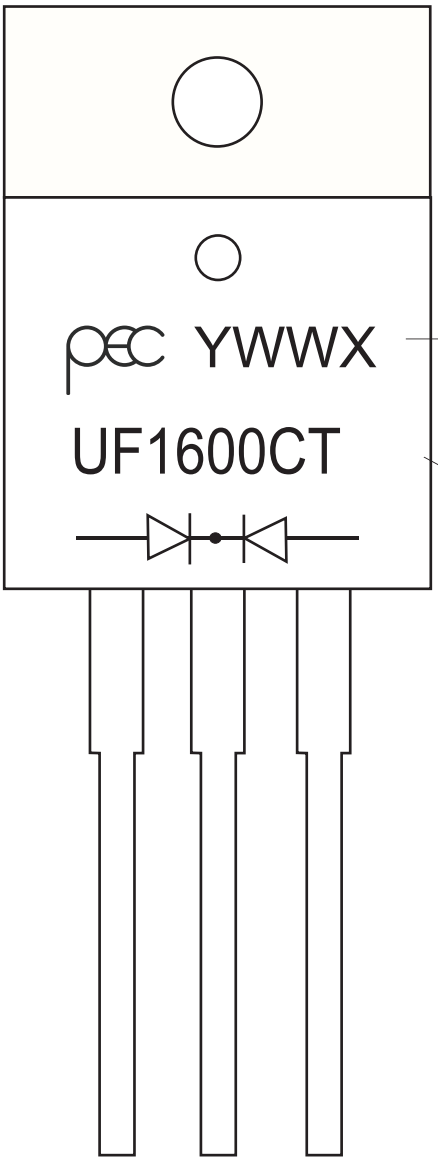
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

2. MARKING

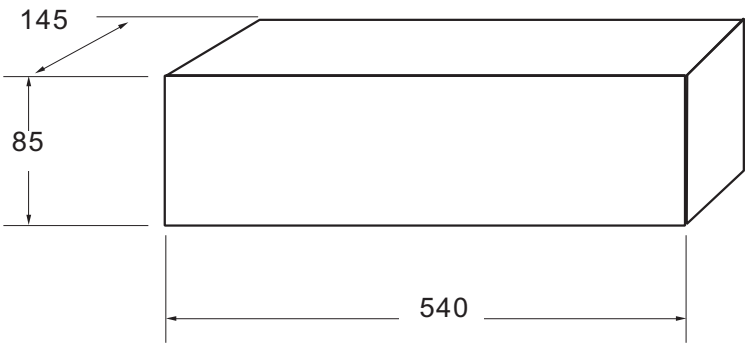


1st line: - PanJit logo
Y- Last digit of calendar year
WW- Weekly
X- Production line

2nd line: Marking code

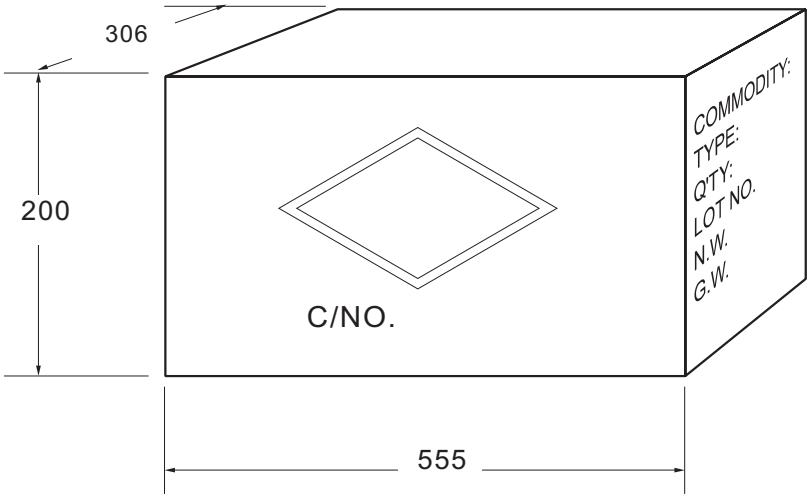
3. PACKING

INNER BOX



Box Dimensions : mm
Quantity per Carton: 2,000 pcs

CARTON



Box Dimensions : mm
Quantity per Box: 8,000 pcs

SHIPPING MARK

C/NO.
PRODUCT COUNTRY

SIDE MARK

COMMODITY:
TYPE:
Q'TY:
LOT NO.
N.W.
G.W.

PANJIT
INTERNATIONAL INC.

Packing Specifications

Package	Reel Size	Reel	Carton Size	Carton	Approx. Gross Weight
	(inch)	(pcs)	(mm)	(EA)	(kg)
Reel Packing					
DFN 0603	7	10,000	390 x 270 x 400	800,000	9
DFN 2L	7	8,000	390 x 270 x 400	640,000	8.6
DFN 3L	7	8,000	390 x 270 x 400	640,000	8.6
DFN2510-10L	7	5,000	390 x 270 x 400	400,000	10.5
	13	12,000	375 x 360 x 213	144,000	6.4
DFN2020-6L(ESD)	7	3,000	455 x 270 x 440	240,000	12.3
DFN2020-8L(ESD)	7	3,000	390 x 270 x 400	240,000	11.2
DFN5060-8L(ESD)	13	3,000	375 x 360 x 422	48,000	14.19
SC-59 (ESD)	7	3,000	455 x 270 x 440	240,000	9.9
ABF	7	1,000	390 x 240 x 420	40,000	9.5
	13	4,000	375 x 360 x 422	64,000	16.9
MBF	13	5,000	375 x 360 x 390	80,000	15.9
MBS	13	3,000	375 x 360 x 390	48,000	12.6
SOP-8	13	2,500	375 x 360 x 422	40,000	7.4
SOD-923	7	8,000	390 x 270 x 400	640,000	7.7
SOD-523	7	5,000	390 x 270 x 400	400,000	9.1
	13	12,000	375 x 360 x 230	144,000	5.4
SOD-323HE	7	5,000	390 x 270 x 400	400,000	11.9
	13	12,000	375 x 360 x 230	144,000	8.3
SOD-323	7	5,000	390 x 270 x 400	400,000	9.4
	13	12,000	375 x 360 x 230	144,000	5.9
SOD-123HE	7	3,000	390 x 270 x 400	240,000	12.4
	13	10,000	375 x 360 x 230	120,000	8.1
SOD-123FL	7	3,000	390 x 270 x 400	240,000	10.6
	13	10,000	375 x 360 x 230	120,000	7.2
SOD-123	7	3,000	390 x 270 x 400	240,000	9.9
	13	10,000	375 x 360 x 230	120,000	26.07
SOT-723(ESD)	7	8,000	455 x 270 x 440	640,000	10.5
SOT-563	7	8,000	390 x 270 x 400	640,000	16.52
	13	20,000	375 x 360 x 230	240,000	6.2
SOT-553	7	4,000	390 x 270 x 400	320,000	9.4
	13	10,000	375 x 360 x 230	120,000	5.2
SOT-523	7	4,000	390 x 270 x 400	320,000	10
SOT-363	7	3,000	390 x 270 x 400	240,000	9.3
	13	10,000	375 x 360 x 230	120,000	7.1
SOT-353	7	3,000	390 x 270 x 400	240,000	10
	13	10,000	375 x 360 x 230	120,000	7.2
SOT-23 6L	7	3,000	390 x 270 x 400	240,000	14.5
	13	10,000	375 x 360 x 230	120,000	7.9
SOT-23 6L-1	7	3,000	390 x 270 x 400	240,000	14.5
	13	10,000	375 x 360 x 230	120,000	7.9
SOT-23 5L	7	3,000	390 x 270 x 400	240,000	14.5
	13	10,000	375 x 360 x 230	120,000	7.9
SOT-323	7	3,000	390 x 270 x 400	240,000	7.9
	13	12,000	375 x 360 x 230	144,000	6.1
SOT-23-1	7	3,000	390 x 270 x 400	240,000	9.8
	13	12,000	375 x 360 x 230	144,000	7
SOT-23	7	3,000	390 x 270 x 400	240,000	9.8
	13	12,000	375 x 360 x 230	144,000	7
SOT-223	13	2,500	375 x 360 x 422	40,000	13.2
SOT-89 (ESD)	7	1,000	455 x 270 x 440	80,000	15.6
SMAF	7	3,000	390 x 240 x 420	120,000	10.9
	13	10,000	375 x 360 x 422	160,000	17.1

Packing Specifications

Package	Reel Size	Reel	Carton Size	Carton	Approx. Gross Weight
	(inch)	(pcs)	(mm)	(EA)	(kg)
Reel Packing					
SMBF	7	1,500	390 x 240 x 420	60,000	9.6
	13	5,000	375 x 360 x 422	80,000	15.6
SMA(W)	7	1,800	390 x 240 x 420	100,800	13
	13	7,500	355 x 355 x 400	150,000	20.4
SMA/DO-214AC	7	1,800	390 x 220 x 370	72,000	10
	13	7,500	375 x 360 x 390	120,000	17.4
SMB/DO-214AA	7	500	390 x 220 x 370	20,000	6.5
	13	3,000	375 x 360 x 390	48,000	13.2
SMC/DO-214AB	7	500	390 x 220 x 370	15,000	8.4
	13	3,000	375 x 360 x 390	42,000	18
R-1	13	5,000	340 x 340 x 410	25,000	7.8
A-405	13	5,000	340 x 340 x 410	25,000	7.8
DO-41	13	5,000	340 x 340 x 410	25,000	11.1
DO-15	13	4,000	340 x 340 x 410	20,000	11.4
DO-201AD	13	1,250	340 x 340 x 410	6,250	9.2
DO-201AE	13	1,250	340 x 340 x 410	6,250	9.2
P-600	13	800	340 x 340 x 410	4,000	9.9
DO-34	15	10,000	360 x 360 x 410	50,000	10.1
DO-35	15	10,000	360 x 360 x 410	50,000	11.2
DO-41G	15	5,000	360 x 360 x 410	25,000	10.9
MICRO-MELF	7	2,500	390 x 270 x 400	200,000	9.3
	13	10,000	355 x 355 x 400	200,000	11.5
QUADRO-MELF	7	2,500	390 x 270 x 400	200,000	13.3
	13	10,000	355 x 355 x 400	200,000	14.9
MINI-MELF/LL-34	7	2,500	390 x 270 x 400	200,000	12.7
	13	10,000	355 x 355 x 400	200,000	14.6
MELF/DL-41	7	1,500	390 x 270 x 400	84,000	18.3
	13	5,000	355 x 355 x 400	100,000	23.5
MDI	13	3,000	375 x 360 x 390	48,000	14.7
MICRO DIP/TDI	7	1,000	390 x 240 x 420	40,000	9.5
	13	4,000	375 x 360 x 422	64,000	17
SDIP	13	1,500	375 x 360 x 390	21,000	14.3
TO-277	7	1,500	390 x 240 x 420	60,000	13.5
	13	5,000	375 x 360 x 422	80,000	20.6
TO-277A	13	5,000	375 x 360 x 422	80,000	18.52
TO-277B	13	5,000	375 x 360 x 422	80,000	21.8
TO-252	13	3,000	375 x 360 x 422	48,000	25
TO-252AA	13	3,000	375 x 360 x 422	48,000	24.2
TO-263/D^2PAK	13	800	375 x 360 x 422	6,400	14.7
TO-263HS	13	800	375 x 360 x 422	6,400	14.7

Packing Specifications

Package	Inner Box Size	Box	Carton Size	Carton	Approx. Gross Weight
	(mm)	(EA)	(mm)	(EA)	(kg)
Bulk Packing					
R-1	198 x 84 x 20	1,000	459 x 214 x 256	50,000	12.7
A-405	198 x 84 x 20	1,000	459 x 214 x 256	50,000	12.7
DO-41	198 x 84 x 20	1,000	459 x 214 x 256	50,000	19.3
DO-15	200 x 85 x 25	1,000	459 x 214 x 256	40,000	20.7
DO-201AD	200 x 85 x 40	500	459 x 214 x 256	12,500	16
DO-201AE	200 x 85 x 40	500	495 x 214 x 256	12,500	16
P-600	208 x 82 x 40	100	459 x 214 x 256	2,500	11.3
DO-34	240 x 100 x 90	2,000	406 x 335 x 257	120,000	14.5
DO-35	240 x 100 x 90	2,000	406 x 335 x 257	120,000	17.1
DO-41G	240 x 100 x 90	1,000	406 x 335 x 257	60,000	18.5
TO-220AC	540 x 145 x 85	2,000	555 x 306 x 200	8,000	22.9
ITO-220AC	540 x 145 x 85	2,000	555 x 306 x 200	8,000	20.5
TO-220AB	540 x 145 x 85	2,000	555 x 306 x 200	8,000	22.9
ITO-220AB	540 x 145 x 85	2,000	555 x 306 x 200	8,000	20.5
ITO-220AB-F	540 x 145 x 85	2,000	555 x 306 x 200	8,000	20.5
TO-251AA	555 x 145 x 95	8,000	580 x 310 x 220	32,000	18.6
TO-251AA-1	555 x 145 x 95	8,000	580 x 310 x 220	32,000	18.6
TO-251AB	555 x 145 x 95	8,000	580 x 310 x 220	32,000	18.6
TO-263/D^2PAK	540 x 145 x 82	2,000	555 x 306 x 188	8,000	15.4
TO-92	188 x 188 x 67	5,000	390 x 420 x 240	50,000	13
TO-92S	188 x 188 x 67	5,000	390 x 420 x 240	50,000	13
GBP	235 x 160 x 35	500	500 x 250 x 195	7,500	13.3
KBPF	235 x 160 x 35	500	500 x 250 x 195	7,500	13.3
FL/KBL	257 x 125 x 50	200	415 x 275 x 300	3,000	18.9
GBU	220 x 120 x 43	250	510 x 235 x 245	5,000	21.5
GBL	240 x 120 x 35	300	510 x 260 x 200	6,000	15
KBU	270 x 145 x 60	200	455 x 282 x 330	3,000	26.07
KBJ	220 x 176 x 45	200	375 x 230 x 260	2,000	15
KBPC	193 x 193 x 46	50	405 x 210 x 265	500	16.52
GBJ	200 x 145 x 42	200	455 x 220 x 240	3,000	14.5
TO-3PL	-	-	530 x 243 x 110	1,500	12.2
TO-3P/TO-247AD	-	-	530 x 243 x 100	1,500	13.9
TO-3PS/TO-247S	-	-	511 x 243 x 107	1,500	12.2
DIP	-	-	459 x 214 x 256	12,000	6.5
SDIP	-	-	459 x 214 x 256	24,000	15.7

Package	Inner Box Size	Ammo	Carton Size	Carton	Appox. Gross Weight
	(mm)	(pcs)	(mm)	(EA)	(kg)
Ammunition Packing					
R-1	255 x 47 x 73	3,000	310 x 268 x 170	36,000	6.3
	255 x 73 x 73	3,000	310 x 268 x 170	24,000	6.3
	255 x 73 x 122	5,000	339 x 276 x 274	40,000	10.3
A-405	255 x 75 x 150	5,000	339 x 276 x 330	40,000	11.34
DO-41	255 x 75 x 150	5,000	339 x 276 x 330	40,000	15.9
	255 x 73 x 95	3,000	333 x 281 x 218	24,000	8.9
DO-15	255 x 75 x 150	3,000	339 x 276 x 330	40,000	13.3
	255 x 73 x 95	1,000	339 x 276 x 330	24,000	8.6
DO-201AD	255 x 75 x 150	1,250	339 x 276 x 330	10,000	13.4
DO-201AE	255 x 75 x 150	1,250	339 x 276 x 330	10,000	13.4
P-600	255 x 75 x 150	400	339 x 276 x 330	3,200	8.1
DO-34	248 x 80 x 48	5,000	410 x 268 x 345	150,000	15.3
	248 x 80 x 75	5,000	410 x 268 x 345	100,000	13.1
DO-35	248 x 80 x 48	5,000	410 x 268 x 345	150,000	17.5
	248 x 80 x 75	5,000	410 x 268 x 345	100,000	15.2
DO-41G	248 x 80 x 48	2,500	410 x 268 x 345	75,000	17.8
	248 x 80 x 75	2,000	410 x 268 x 345	50,000	16.4

4.HIGH RELIABILITY TEST SPEC
(Schottky & Switching & Rectifiers & Bridge)

Date：2015.01.29 rev.05

NO.	TEST ITEM	TEST CONDITION	REFERENCED DOCUMENT	LOT QUALITY LEVEL
1	HIGH TEMPERATURE REVERSE BIAS (H.T.R.B)	Tj ≤ Tj max V=0.8VR (CUSTOMER SPEC.) DC supply 1000hr	JESD22-A108C	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
2	INTERMITTENT FORWARD OPERATING LIFE (I.F.O.L)	I=I_O×1.0 DC supply POWER ON: at least 2 min , POWER OFF: 2min 15000cycle	MIL-STD-750E METHOD 1037.2	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
3	CONTINUE FORWARD OPERATING LIFE (C.F.O.L)	Ta should be specified if other than room temp I=IO+/−10% DC supply 168hr	MIL-STD-750E METHOD 1027.3	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
4	TEMPERATURE CYCLING (T.C.T)	Ta=−55 +0/−10℃ t=10min (Min.) Ta=+150 +15/−0℃ t=10min (Min.) 1000cycle	JESD22-A104D	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
5	PRESSURE COOKER (PCT)	Ta=121℃ , P=29.7psia , Relative Humidity = 100%RH 96hr	JESD22-A102D	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
6	THERMAL SHOCK (T.S.T)	HOT TANK Ta=100+10/−2℃ t=5min COLD TANK Ta=0+2/−10℃ t=5min 100 cycle	JESD22-A106B	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
7	HIGH TEMPERATURE STORAGE LIFE (H.T.S.L)	Ta=specified max storage temperature +/−5℃ 1000hr	JESD22-A103C	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
8	TEMPERATURE HUMIDITY STORAGE (T.H.S)	Ta=85+/-2℃ , RH=85+/-5% 1000hr	EIAJ ED-4701/100 METHOD 103	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
9	SOLDERABILITY TEST	TEMPERATURE OF SOLDER POT=245+/−5℃ TIME FOR DIPPING IN SOLDER=5+/−0.5 SEC DIPPING DEPTH=0.05inch MAX FROM THE BODY 1 cycle	JESD22-B102D	S.S=10 ACCEPT FOR 0 FAILURE ONLY.
10	SOLDER RESISTANCE	TEMPERATURE OF SOLDER POT=260+/−5℃ TIME FOR DIPPING IN SOLDER=10+2/−0 SEC DIPPING DEPTH=1.57+/−0.79mm FROM THE BODY 1 cycle	JESD22-B106D	S.S=30 ACCEPT FOR 0 FAILURE ONLY.
11	FORWARD SURGE CURRENT	SQ WAVE OR SINE WAVE IFSM=DATE SHEET SPEC TIME=Tp	MIL-STD-750E METHOD 4066.4	S.S=22 ACCEPT FOR 0 FAILURE ONLY.