

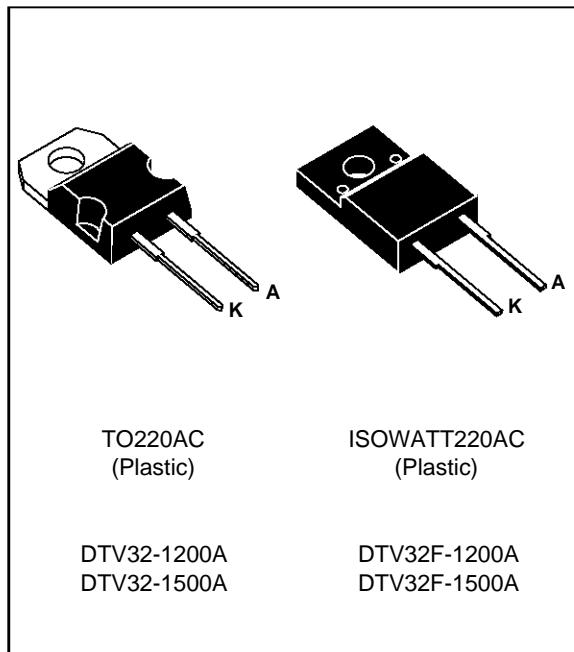
(CRT HORIZONTAL DEFLECTION)
HIGH VOLTAGE DAMPER DIODE

FEATURES

- HIGH BREAKDOWN VOLTAGE CAPABILITY
- LOW AND MEDIUM FREQUENCY OPERATION
- SPECIFIED TURN ON SWITCHING CHARACTERISTICS
- TYPICAL TOTAL LOSSES : 2 W
($I_{Fpeak} = 6$ A, $F = 32$ kHz)
- SUITABLE WITH **BUH** TRANSISTORS SERIES
- INSULATED VERSION (ISOWATT220AC) :
Insulating voltage = 2000 V DC
Capacitance = 12 pF

DESCRIPTION

High voltage diode especially designed for horizontal deflection stage in standard and high resolution displays for TV's and monitors.
This device is packaged in TO220AC or ISOWATT220AC.


ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter			Value	Unit
$I_F(RMS)$	RMS forward current			15	A
$I_F(AV)$	$\delta = 0.5$	TO220AC	$T_c=130^\circ C$	6	A
		ISOWATT220AC	$T_c=115^\circ C$	6	
I_{FSM}	Surge non repetitive forward current		$t_p=10ms$ sinusoidal	100	A
T_{stg} T_j	Storage and junction temperature range			- 40 to + 150	$^\circ C$
				- 40 to + 150	$^\circ C$

Symbol	Parameter	DTV32(F)-		Unit
		1200A	1500A	
V_{RRM}	Repetitive peak reverse voltage	1200	1500	V
V_{RWM}	Reverse working voltage	1000	1350	V

DTV32(F)-1200A / DTV32(F)-1500A

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th} (j-c)	Junction to case	TO220AC	2
		ISOWATT220AC	4

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I _R *	T _j = 25°C	V _R = V _{RWM}			100	μA
	T _j = 100°C				1	mA
V _F **	T _j = 25°C	I _F = 6 A			1.3	V
	T _j = 100°C	I _F = 6 A			1.2	

Pulse test : * tp = 5 ms, duty cycle < 2 %

** tp = 380 μs, duty cycle < 2 %

RECOVERY CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t _{rr} (1)	T _j = 25°C	I _F = 1 A V _R = 30 V		450	600	ns
t _{rr} (2)	T _j = 25°C	I _F = 1 A V _R = 30 V		300		ns
t _{rr}	T _j = 25°C	I _F = 100mA	I _R = 100mA		250	

TURN ON SWITCHING CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
t _{FR} (2)	T _j = 100°C	I _F = 6 A	dI _F /dt = 80 A/μs	0.5		μs
V _{FP} (2)		V _{FR} = 2 V		30		V

(1) Test following Jedec Standard

(2) Test representative of the application

To evaluate the conduction losses use the following equations :

$$V_F = 1.0 + 0.025 I_F \quad P = 1.0 \times I_{F(AV)} + 0.025 \times I_{F(RMS)}^2$$

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Fig.1 : Average forward power dissipation versus average forward current.

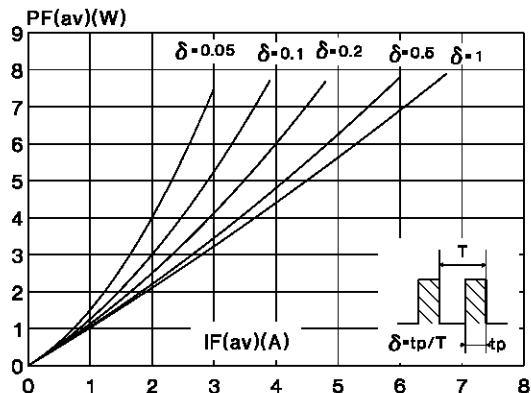


Fig.3 : Average current versus ambient temperature.
(duty cycle : 0.5) (TO220AC)

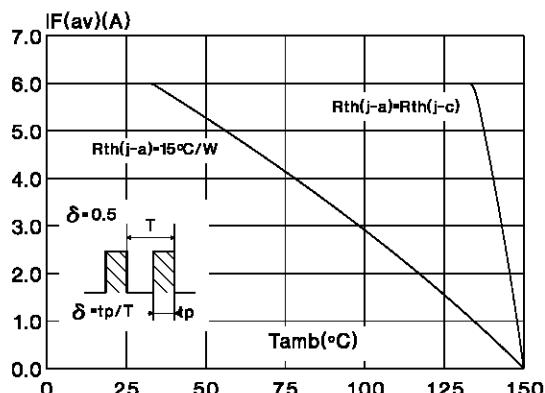


Fig.5 : Non repetitive surge peak forward current versus overload duration.
(Maximum values) (TO220AC)

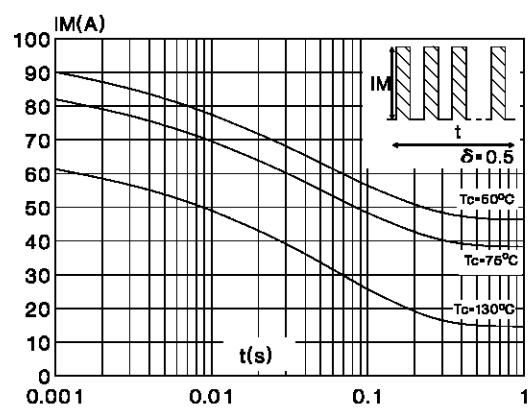


Fig.2 : Peak current versus form factor.

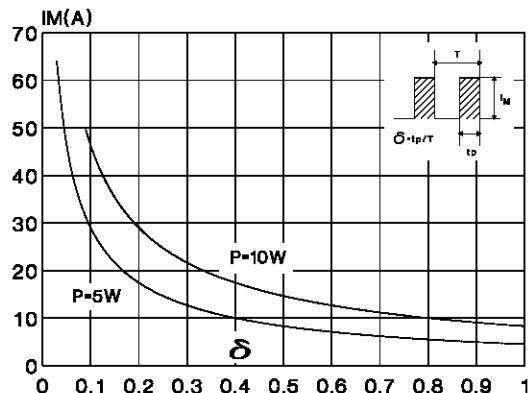


Fig.4 : Average current versus ambient temperature.
(duty cycle : 0.5) (ISOWATT220AC)

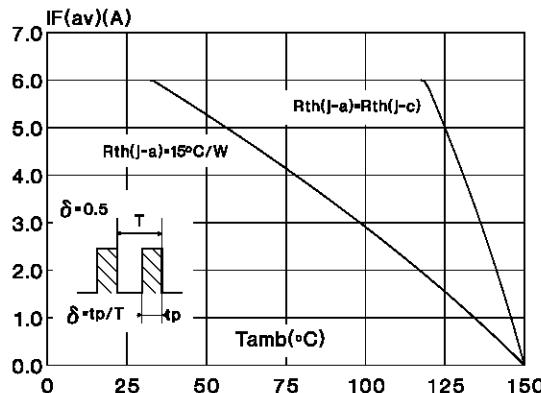
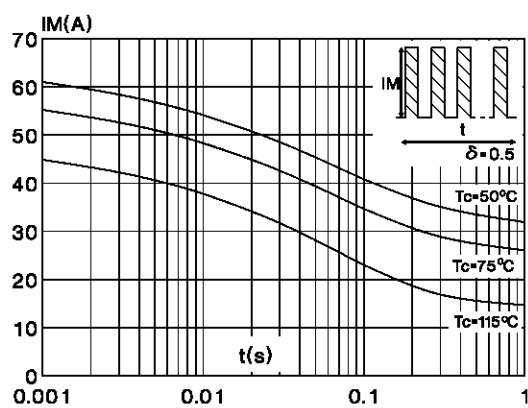


Fig.6 : Non repetitive surge peak forward current versus overload duration.
(Maximum values) (ISOWATT220AC)



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Fig.7 : Relative variation of thermal transient impedance junction to case versus pulse duration.
(TO220AC)

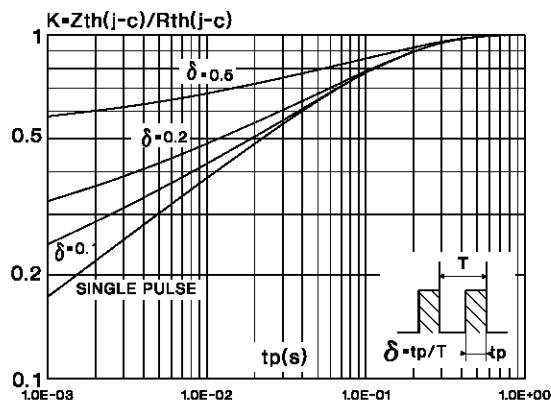


Fig.9 : Forward voltage drop versus forward current.
(Maximum values)

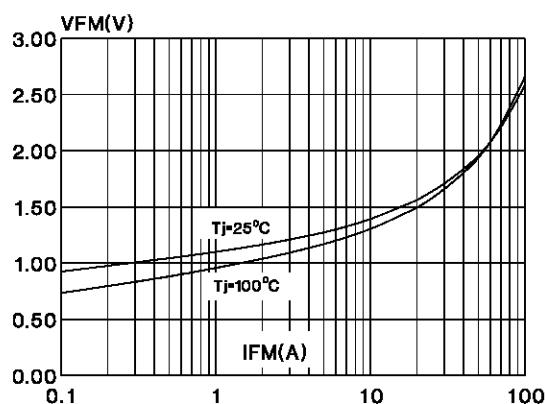


Fig.11 : Recovery charge versus dI_F/dt .

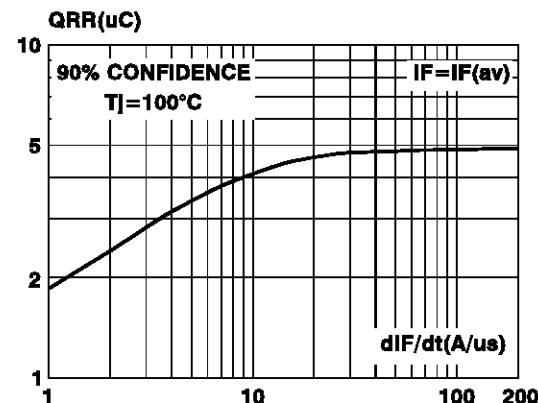


Fig.8 : Relative variation of thermal transient impedance junction to case versus pulse duration.
(ISOWATT220AC)

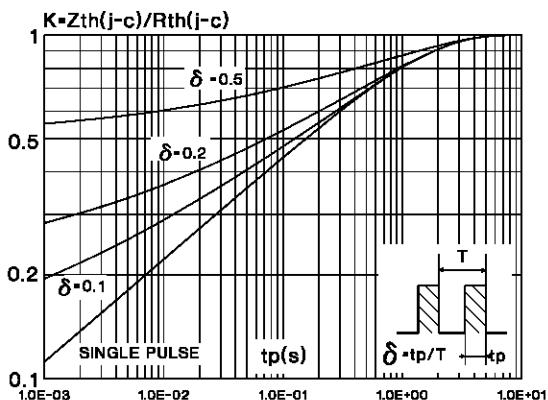


Fig.10 : Junction capacitance versus reverse voltage applied.
(Typical values)

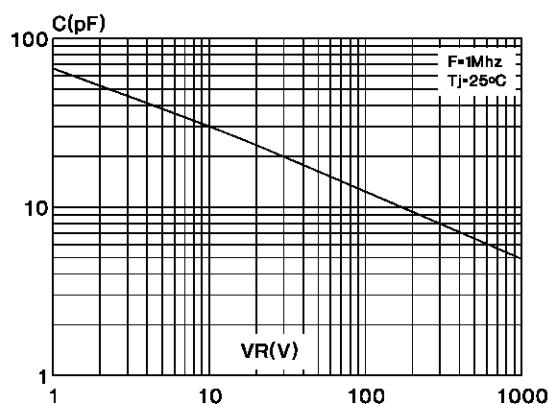
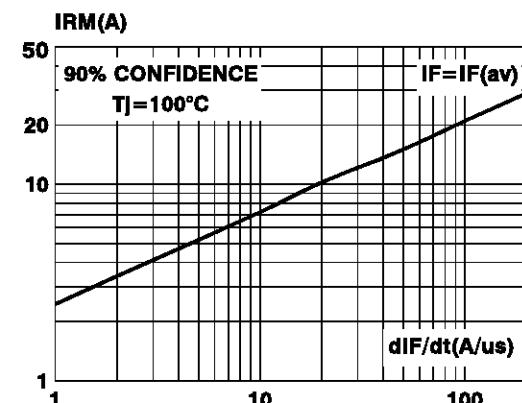


Fig.12 : Peak reverse current versus dI_F/dt .



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Fig.13 : Dynamic parameters versus junction temperature.

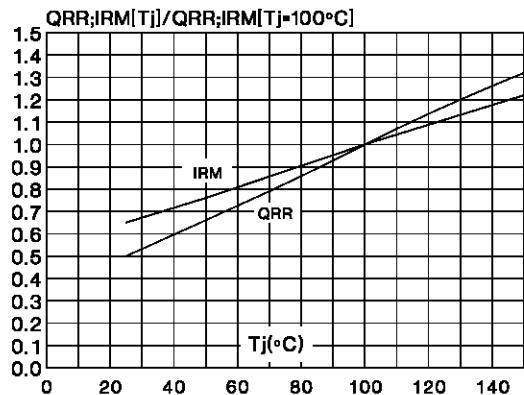


Fig.14 : Peak forward voltage versus dI_F/dt.

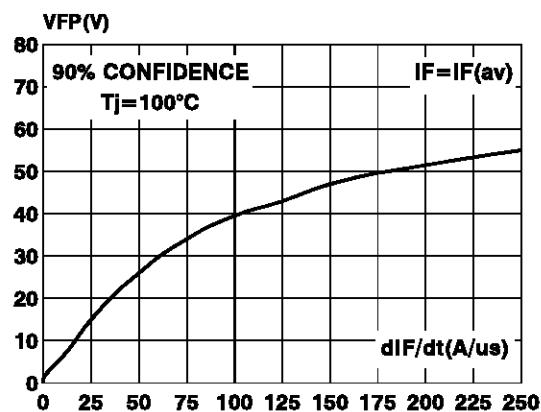
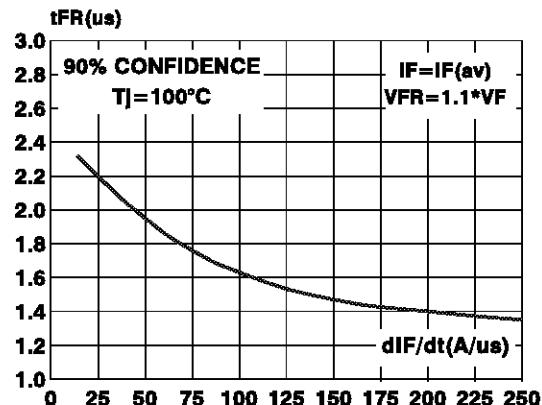
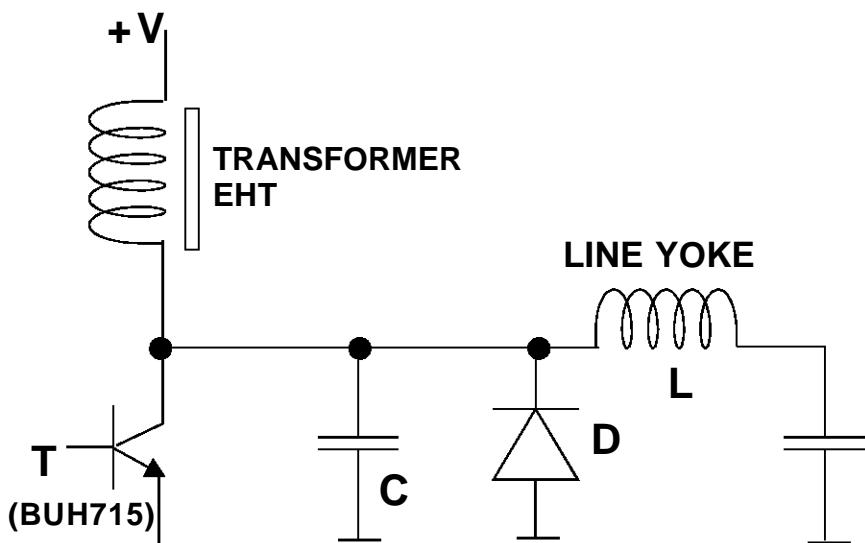


Fig.15 : Recovery time versus dI_F/dt.



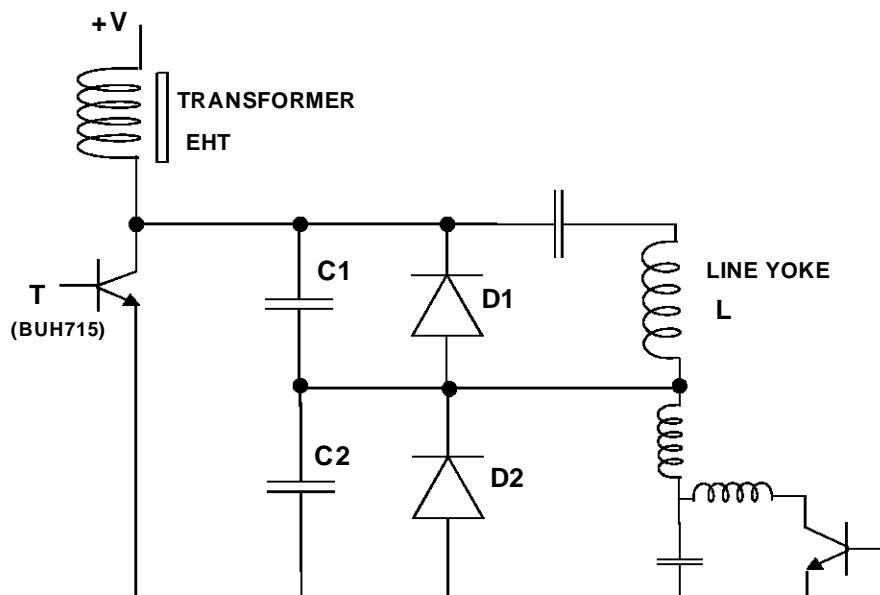
DTV32(F)-1200A / DTV32(F)-1500A

BASIC HORIZONTAL DEFLECTION CIRCUIT



(D=DAMPER DIODE DTV32-1500)

BASIC E-W DIODE MODULATOR CIRCUIT



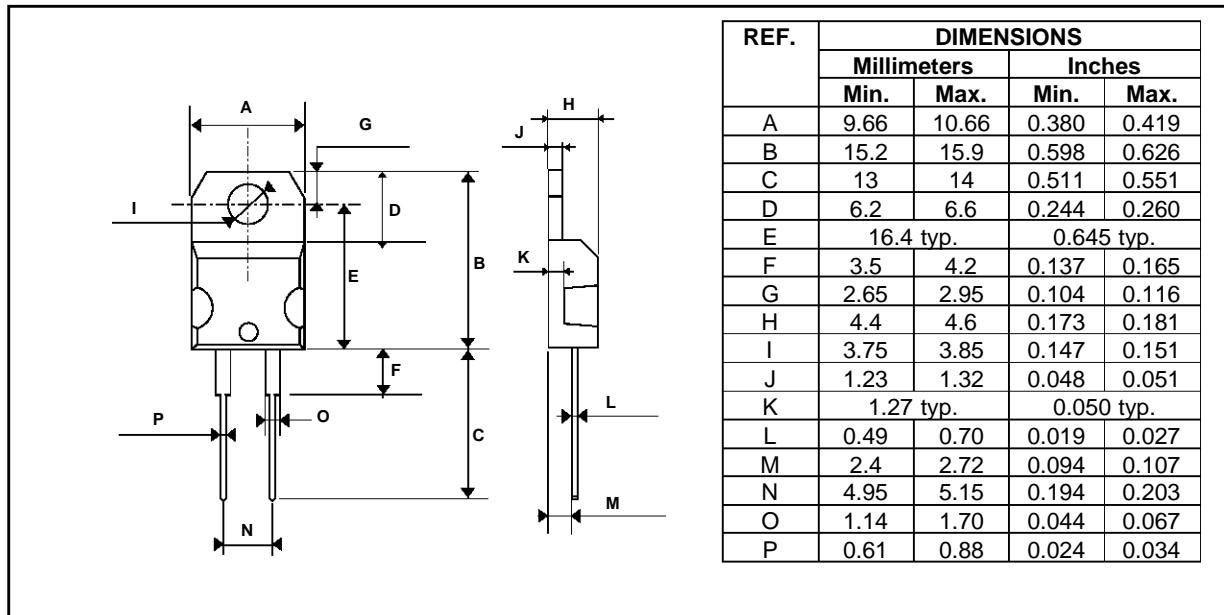
D1=DTV32-1500

D2=BYT08-400

DTV32(F)-1200A / DTV32(F)-1500A

PACKAGE MECHANICAL DATA

TO220AC Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.66	10.66	0.380	0.419
B	15.2	15.9	0.598	0.626
C	13	14	0.511	0.551
D	6.2	6.6	0.244	0.260
E	16.4 typ.		0.645 typ.	
F	3.5	4.2	0.137	0.165
G	2.65	2.95	0.104	0.116
H	4.4	4.6	0.173	0.181
I	3.75	3.85	0.147	0.151
J	1.23	1.32	0.048	0.051
K	1.27 typ.		0.050 typ.	
L	0.49	0.70	0.019	0.027
M	2.4	2.72	0.094	0.107
N	4.95	5.15	0.194	0.203
O	1.14	1.70	0.044	0.067
P	0.61	0.88	0.024	0.034

Cooling method : C

Marking : Type number

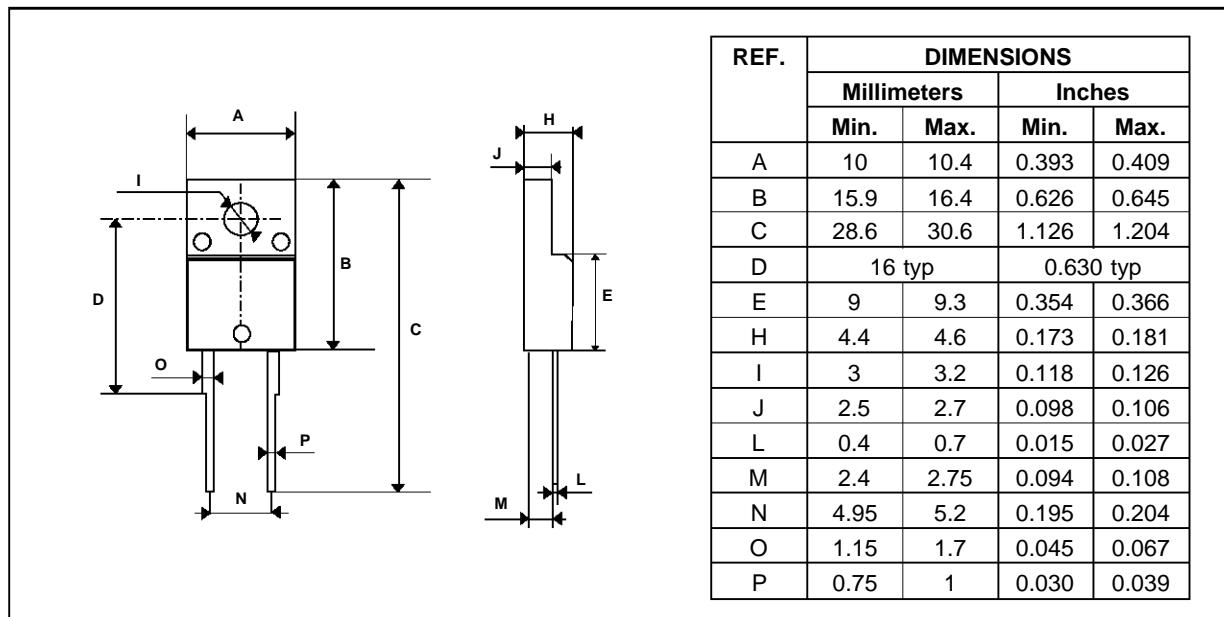
Weight : 1.9 g

Recommended torque value : 0.55m.N

Maximum torque value : 0.70m.N

PACKAGE MECHANICAL DATA

ISOWATT220AC Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	10	10.4	0.393	0.409
B	15.9	16.4	0.626	0.645
C	28.6	30.6	1.126	1.204
D	16 typ		0.630 typ	
E	9	9.3	0.354	0.366
H	4.4	4.6	0.173	0.181
I	3	3.2	0.118	0.126
J	2.5	2.7	0.098	0.106
L	0.4	0.7	0.015	0.027
M	2.4	2.75	0.094	0.108
N	4.95	5.2	0.195	0.204
O	1.15	1.7	0.045	0.067
P	0.75	1	0.030	0.039

Cooling method : C

Marking : Type number

Weight : 2 g

Recommended torque value : 0.55m.N

Maximum torque value : 0.70m.N

DTV32(F)-1200A / DTV32(F)-1500A

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