CS2045CT-A

Chip Integration Technology Corporation

Super Low Barrier High Voltage Power Rectifier

Main Product Characteristics

$I_{F(AV)}$	2x10A
V_{RRM}	45V
T_J	150°C
$V_{(Typ)}$	0.49V

■ Features

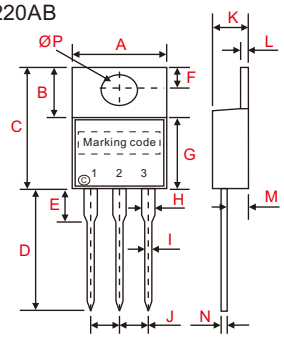
- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Lead free in compliance with EU RoHS.

■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: As marked.
- Weight : Approximated 2.25 gram.

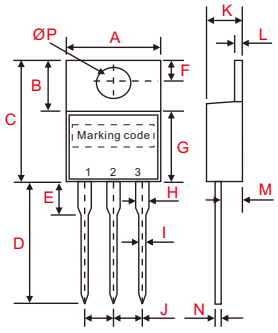
■Outline

TO-220AB



symbol	Dimensions in inches(millimeters)	
	Min	Max
A	0.398(10.1)	0.406(10.3)
B	0.236(6.0)	0.252(6.4)
C	0.579(14.7)	0.594(15.1)
D	0.543(13.8)	0.551(14.0)
E	0.143(3.63)	0.159(4.03)
F	0.104(2.64)	0.112(2.84)
G	0.335(8.5)	0.350(8.9)
H	0.046(1.17)	0.054(1.37)
I	0.028(0.71)	0.036(0.91)
J	0.098(2.49)	0.102(2.59)
K	0.176(4.47)	0.184(4.67)
L	0.046(1.17)	0.054(1.37)
M	0.102(2.6)	0.110(2.8)
N	0.019(0.28)	0.021(0.48)
ØP	0.147(3.74)	0.155(3.94)

Alternate



symbol	Dimensions in inches(millimeters)	
	Min	Max
A	0.394(10.0)	0.413(10.5)
B	0.228(5.8)	0.268(6.8)
C	0.570(14.48)	0.625(15.87)
D	0.519(13.18)	0.558(14.18)
E	0.089(3.5)	0.099(3.9)
F	0.100(2.54)	0.120(3.04)
G	0.330(8.38)	0.350(8.9)
H	0.045(1.15)	0.060(1.52)
I	0.029(0.75)	0.037(0.95)
J	0.095(2.42)	0.105(2.66)
K	0.160(4.07)	0.190(4.82)
L	0.045(1.15)	0.055(1.39)
M	0.080(2.04)	0.110(2.8)
N	0.013(0.33)	0.019(0.52)
ØP	0.148(3.75)	0.156(3.95)

Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified.

■ Circuit Diagram



Parameter	Conditions	Symbol	CS2045CT-A	UNIT
Working peak reverse voltage		V_{RWM}	45	V
Forward rectified current (total device)		I_O	20	A
Forward surge current (per diode)	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}	200	A
Peak repetitive reverse surge current (per diode)	2us - 1kHz	I_{RRM}	2	A
Typical Thermal resistance	Junction to case	$R_{\theta JC}$	2	°C/W
	Junction to ambient	$R_{\theta JA}$	50	
Storage temperature		T_{STG}	-55 ~ +150	°C
Operating Junction temperature		T_J	-55 ~ +150	°C

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage drop (per diode)	I_F = 3A, T_J = 25°C	V_F		360		mV
	I_F = 10A, T_J = 25°C			500	540	
	I_F = 10A, T_J = 125°C			490	500	
Reverse current (per diode)	V_R = 45V T_J = 25°C	I_R			0.5	mA
	V_R = 45V T_J = 125°C				100	
Reverse Breakdown Voltage (per diode)	I_R = 0.5mA, T_J = 25°C	V_{BR}	45			V

■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve (per diode)

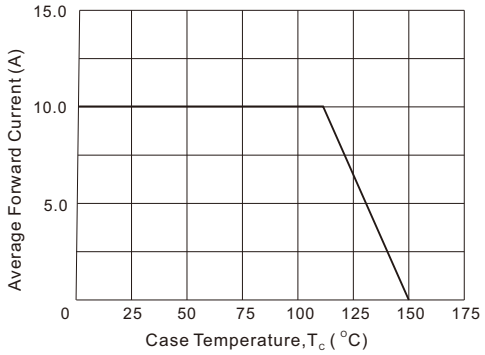


Fig. 2 - Instantaneous Forward Characteristics (per diode)

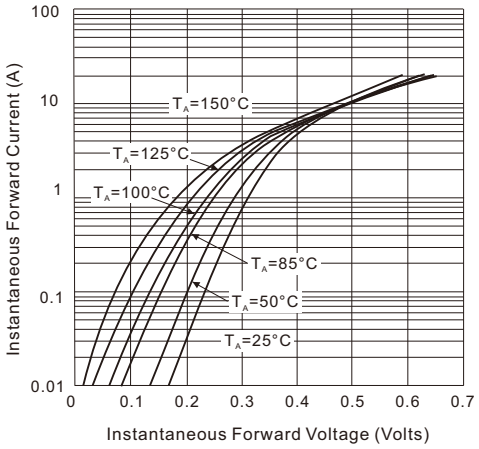


Fig. 3 - Reverse Characteristics (per diode)

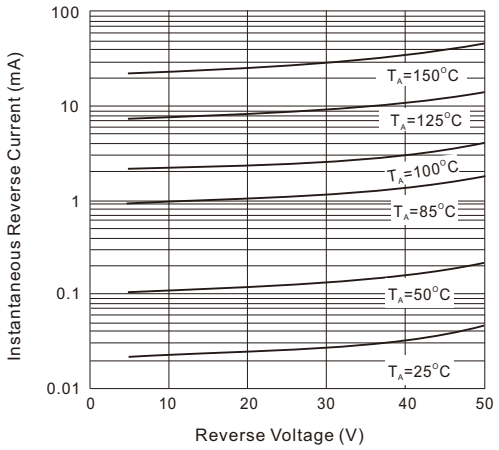
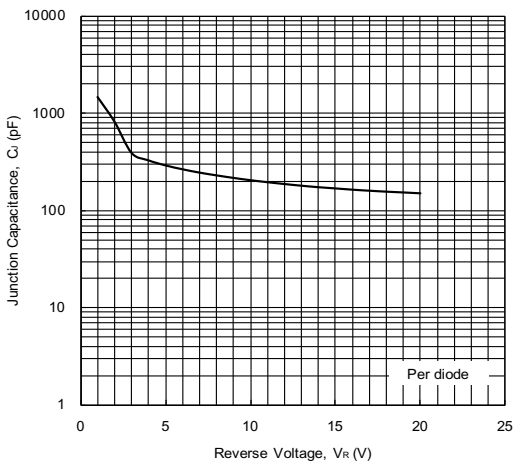
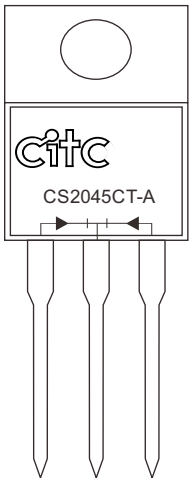


Fig. 4 - Junction Capacitance



■ Marking Information



CS2045CT-A : Product type marking code

: CITC Logo

■ Ordering / Packing Information

Part number		Case	Q'TY/Tube (PCS)	Q'TY/Box (PCS)	Q'TY/Carton (PCS)
Halogen	CS2045CT-A	TO-220AB	50	1000	5000
Halogen free	CS2045CTG-A				

Notes : 1. For packaging details please reference our website at http://www.citcorp.com.tw/tchinese/products/index.php

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