

Main Product Characteristics

$I_{F(AV)}$	2 X 20A
V_{RRM}	45V
T_J	150°C
$V_{F(Typ)}$	0.41V

■ Features

- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead free in compliance with EU RoHS.

■ Mechanical data

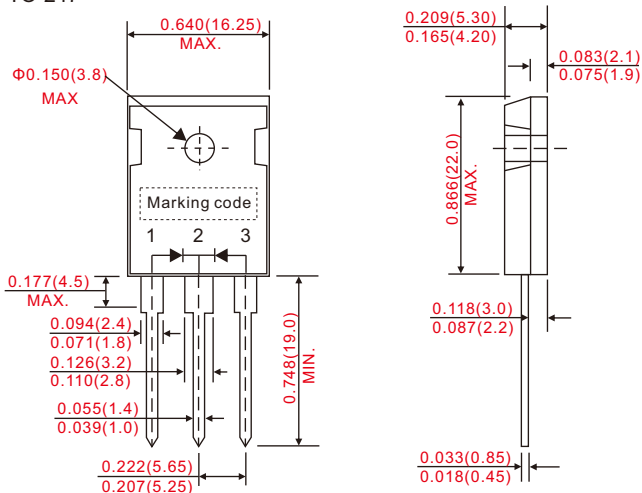
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-247 molded plastic body over passivated chip.
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Weight : Approximated 5.60 gram.

■ Maximum Ratings

Rating at 25°C ambient temperature unless otherwise specified.

■ Outline

TO-247



■ Circuit Diagram



Parameter	Condition	Symbol	CSF40S45PT	UNIT
Working peak reverse voltage		V_{RWM}	45	V
Forward Rectified Current (total device)		I_O	40	A
Forward Surge Current (per diode)	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}	340	A
Peak Repetitive Reverse Surge Current (per diode)	Pulse width 2us, 1000Hz, square wave at T_A 25°C, 10 cycles	I_{RRM}	2	A
Thermal Resistance (per diode)	Junction to case	R_{BJC}	2	°C/W
	Junction to ambient	R_{BJA}	50	
Storage Temperature		T_{STG}	-55 ~ +150	°C
Operating Junction Temperature		T_J	-55 ~ +150	°C

■ Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Condition	Symbol	MIN.	TYP.	MAX.	UNIT
Forward Voltage Drop (per diode)	$I_F = 3A, T_J = 25^\circ C$	V_F		310		mV
	$I_F = 20A, T_J = 25^\circ C$			445	500	
	$I_F = 20A, T_J = 125^\circ C$			410		
Reverse Current (per diode)	$V_R = 45V, T_J = 25^\circ C$	I_R		0.1	0.5	mA
	$V_R = 45V, T_J = 125^\circ C$			50	100	
Reverse Breakdown Voltage (per diode)	$I_R = 0.5mA, T_J = 25^\circ C$	V_{BR}	45			V

Rating and Characteristic Curves

Fig. 1 - Forward Characteristics

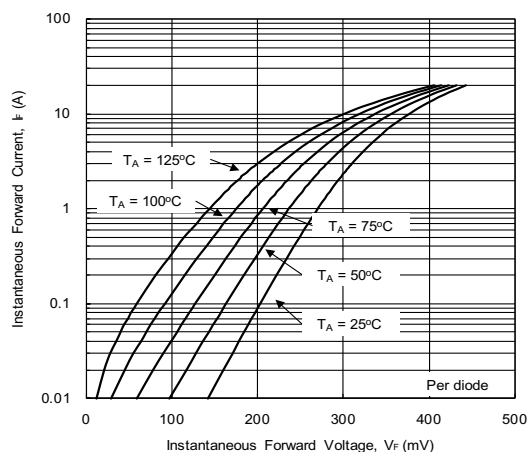


Fig. 2 - Reverse Characteristics

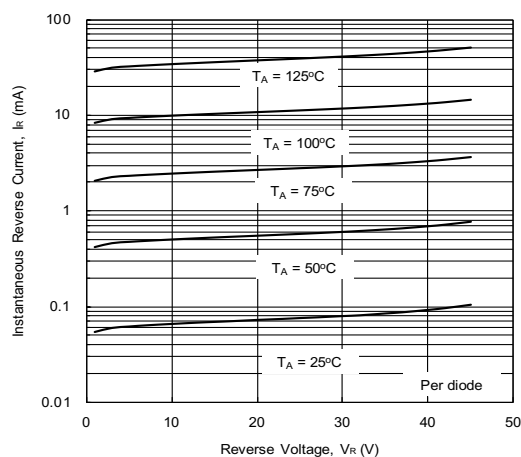


Fig. 3 - Forward Power Dissipation

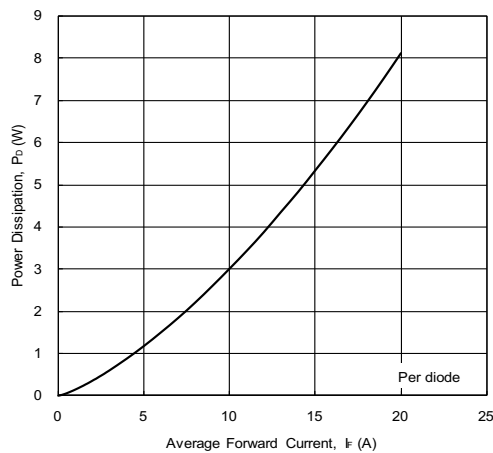


Fig. 4 - Forward Current Derating Curve

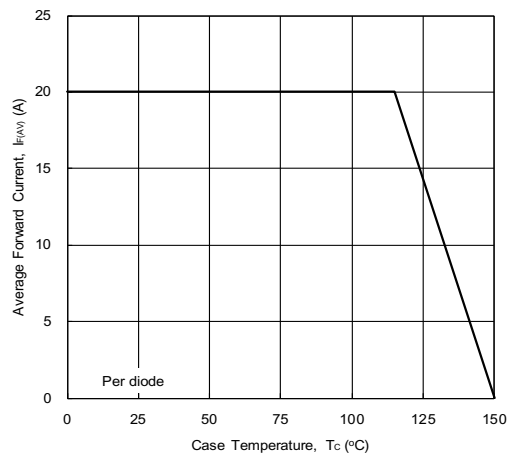
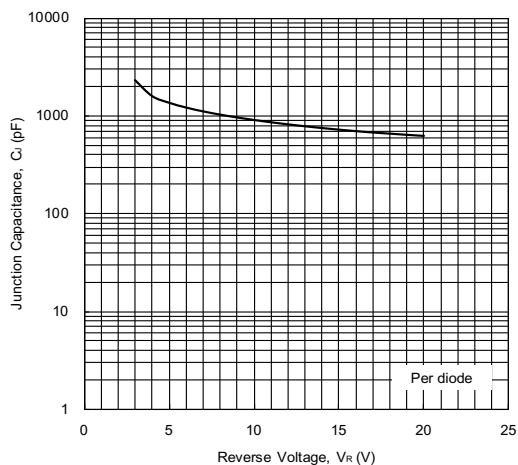
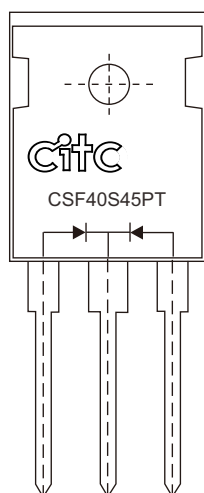


Fig. 5 - Junction Capacitance



■ Marking Information



CSF40S45PT : 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	CSF40S45PT	TO-247	30	360	1800
Halogen free	CSF40S45PTG				

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

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