

### APPLICATIONS

- Rectification
- Freewheel Diode
- DC Motor Control
- Power Supplies
- Welding
- Battery Chargers

### KEY PARAMETERS

$V_{RRM}$	<b>3600V</b>
$I_{F(AV)}$	<b>2530A</b>
$I_{FSM}$	<b>27000A</b>

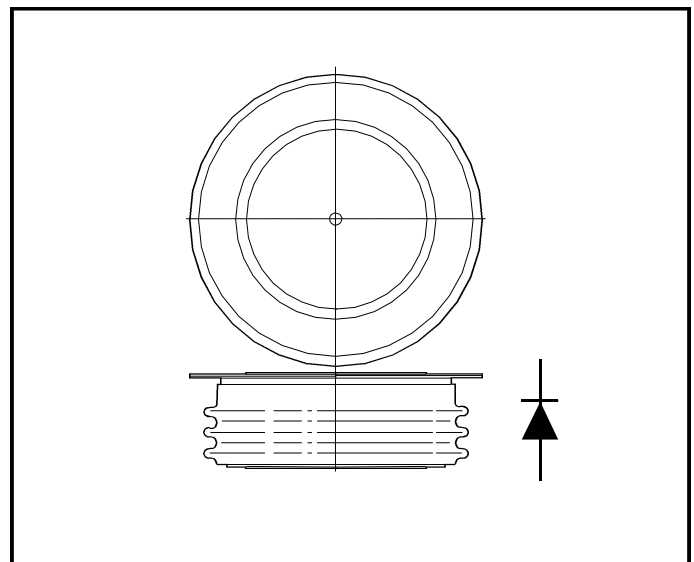
### FEATURES

- Double Side Cooling
- High Surge Capability

### VOLTAGE RATINGS

Type Number	Repetitive Peak Reverse Voltage $V_{RRM}$ V	Conditions
TRB64 36	3600	$V_{RSM} = V_{RRM} + 100V$
TRB64 34	3400	
TRB64 32	3200	
TRB64 30	3000	
TRB64 28	2800	
TRB64 26	2600	

Lower voltage grades available.



Outline type code: DO200AD.  
See Package Details for further information.

### CURRENT RATINGS

Symbol	Parameter	Conditions	Max.	Units
<b>Double Side Cooled</b>				
$I_{F(AV)}$	Mean forward current	Half wave resistive load, $T_{case} = 100^{\circ}C$	2530	A
$I_{F(RMS)}$	RMS value	$T_{case} = 100^{\circ}C$	3980	A
$I_F$	Continuous (direct) forward current	$T_{case} = 100^{\circ}C$	3635	A
<b>Single Side Cooled (Anode side)</b>				
$I_{F(AV)}$	Mean forward current	Half wave resistive load, $T_{case} = 100^{\circ}C$	1655	A
$I_{F(RMS)}$	RMS value	$T_{case} = 100^{\circ}C$	2600	A
$I_F$	Continuous (direct) forward current	$T_{case} = 100^{\circ}C$	2280	A

# TRB64

## SURGE RATINGS

Symbol	Parameter	Conditions	Max.	Units
$I_{FSM}$	Surge (non-repetitive) forward current	10ms half sine; $T_{case} = 175^{\circ}C$ $V_R = 50\% V_{RRM} - 1/4$ sine	21.5	kA
$I^2t$	$I^2t$ for fusing		$2.33 \times 10^6$	A <sup>2</sup> s
$I_{FSM}$	Surge (non-repetitive) forward current	10ms half sine; $T_{case} = 175^{\circ}C$ $V_R = 0$	27.0	kA
$I^2t$	$I^2t$ for fusing		$3.645 \times 10^6$	A <sup>2</sup> s

## THERMAL AND MECHANICAL DATA

Symbol	Parameter	Conditions	Min.	Max.	Units	
$R_{th(j-c)}$	Thermal resistance - junction to case	Double side cooled	dc	-	0.013	$^{\circ}C/W$
		Single side cooled	Anode dc	-	0.025	$^{\circ}C/W$
			Cathode dc	-	0.027	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance - case to heatsink	Clamping force 44.0kN with mounting compound	Double side	-	0.003	$^{\circ}C/W$
			Single side	-	0.006	$^{\circ}C/W$
$T_{vj}$	Virtual junction temperature	Forward (conducting)		-	185	$^{\circ}C$
		Reverse (blocking)		-	175	$^{\circ}C$
$T_{stg}$	Storage temperature range			-55	200	$^{\circ}C$
-	Clamping force			40.0	48.0	kN

## CHARACTERISTICS

Symbol	Parameter	Conditions	Typ.	Max.	Units
$V_{FM}$	Forward voltage	At 1500A peak, $T_{case} = 25^{\circ}C$	-	1.1	V
$I_{RRM}$	Peak reverse current	At $V_{RRM}$ , $T_{case} = 175^{\circ}C$	-	100	mA
$Q_S$	Total stored charge	$I_F = 1000A$ , $di_{RR}/dt = 5A/\mu s$ $T_{case} = 125C$ , $V_R = 100V$	4000	-	$\mu C$
$I_{RR}$	Peak recovery current		150	-	A
$t_{rr}$	Reverse recovery time		30	-	$\mu s$
$V_{TO}$	Threshold voltage	At $T_{vj} = 175C$	-	0.86	V
$r_T$	Slope resistance	At $T_{vj} = 175C$	-	0.2	m $\Omega$

CURVES

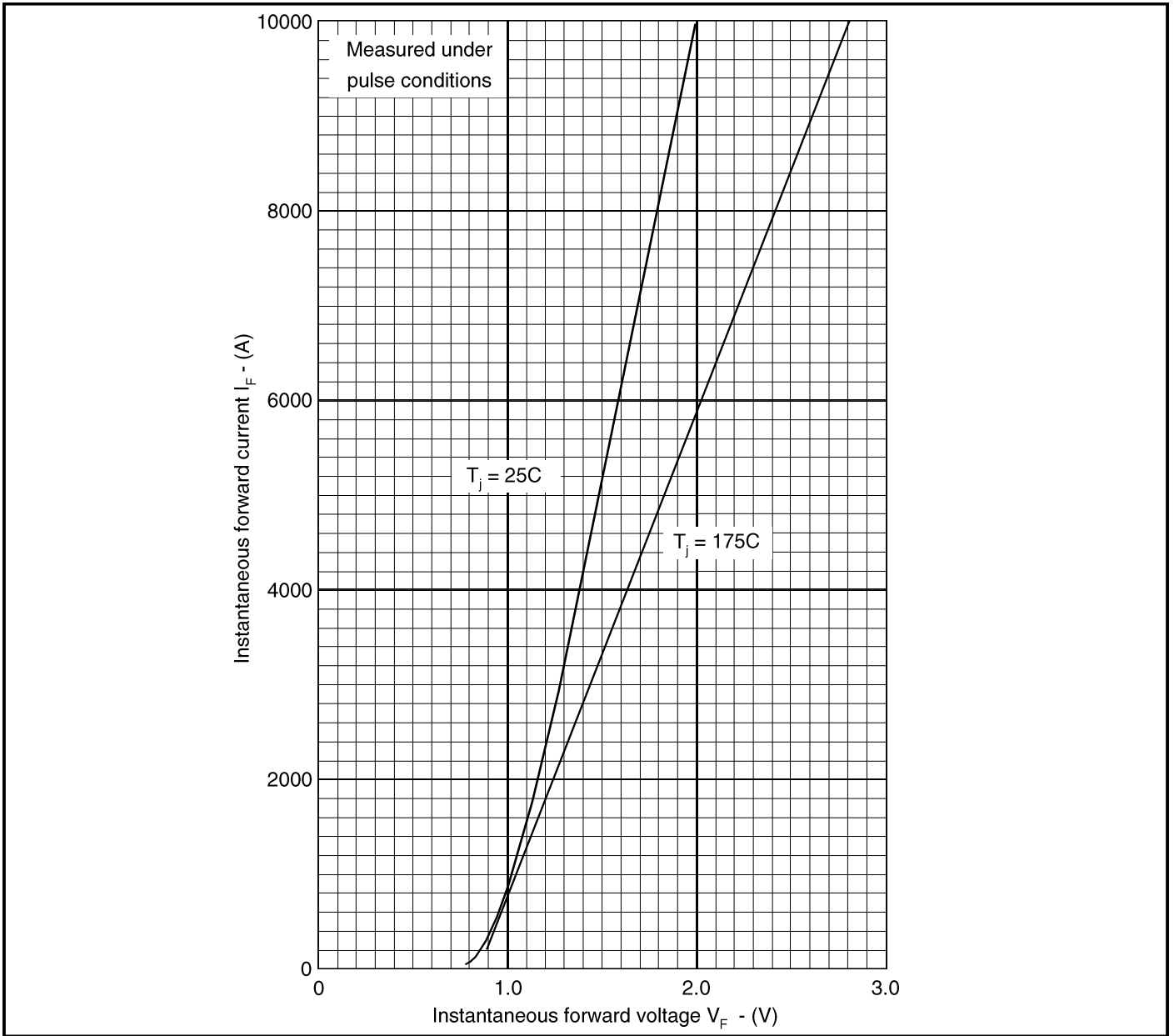


Fig.1 Maximum (limit) forward characteristics

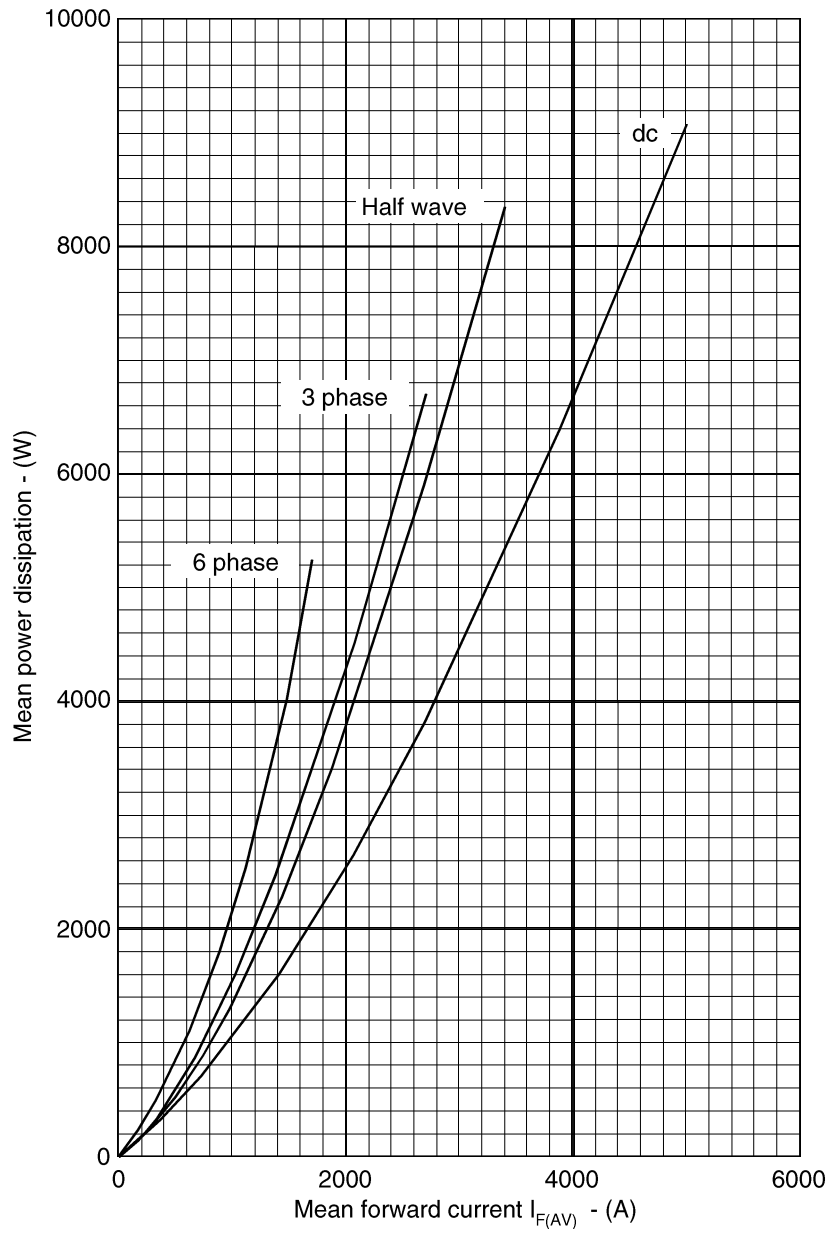


Fig.2 Dissipation curves

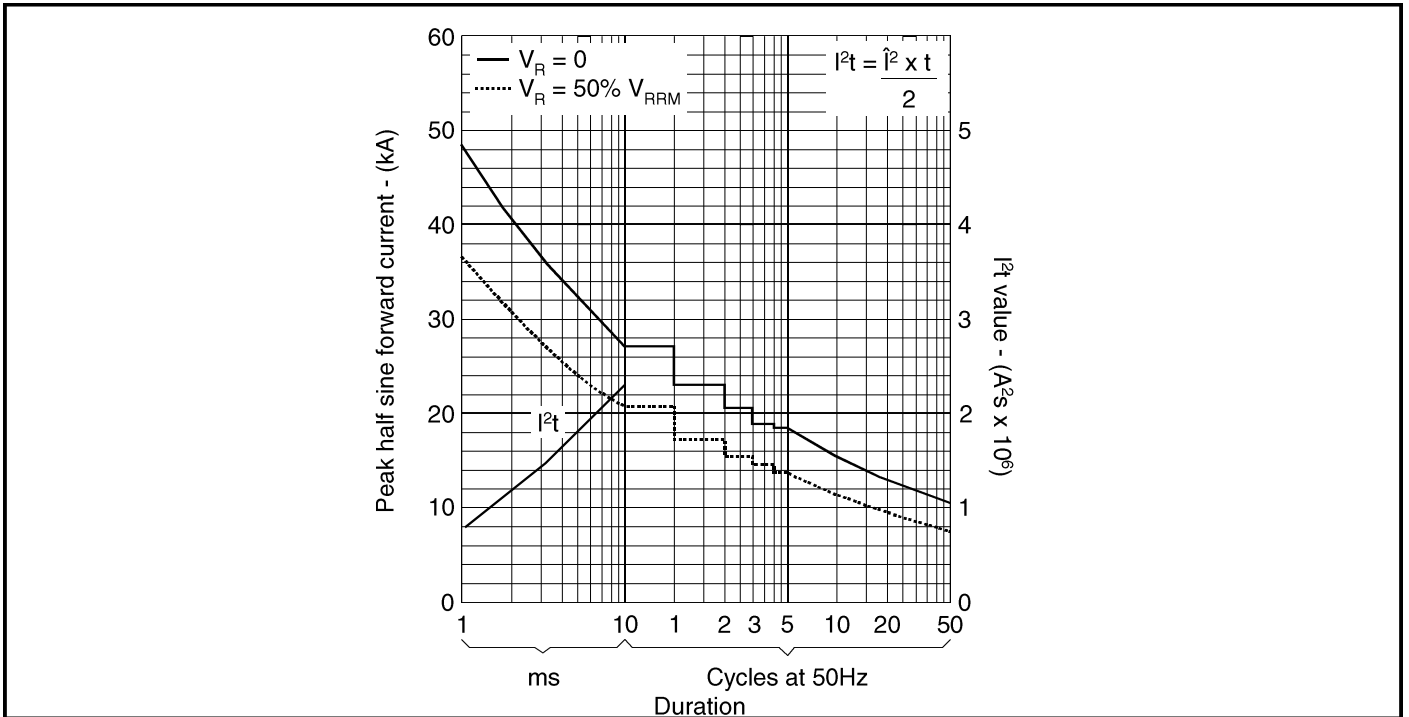


Fig.3 Surge (non-repetitive) forward current vs time ( $T_{case} = 175C$ )

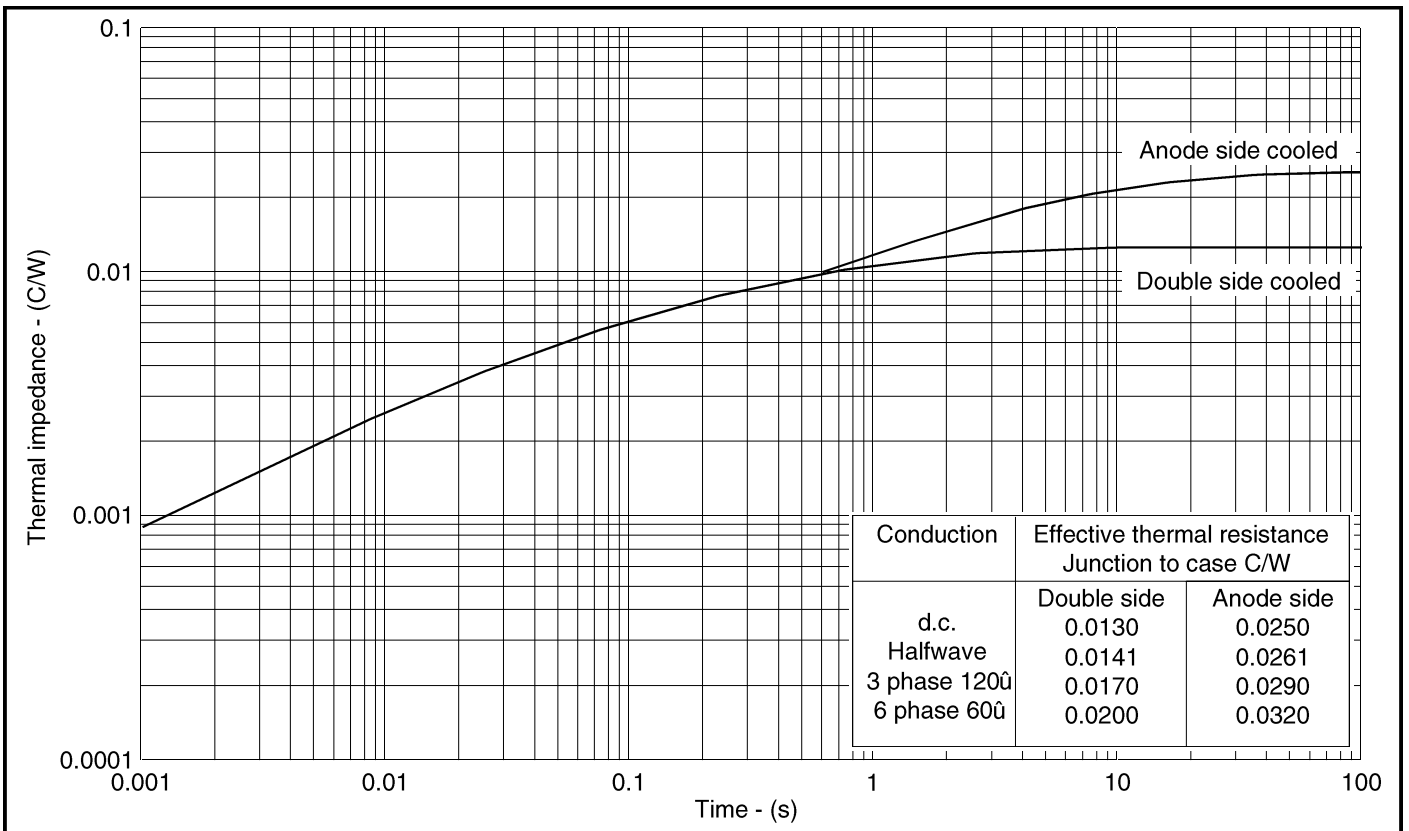


Fig.4 Maximum (limit) transient thermal impedance - junction to case - (C/W)

