

Features

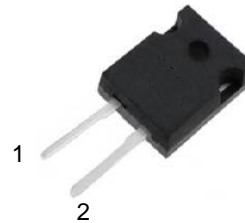
- z Low reverse current
- z Good surge current capability
- z Low capacitive charge
- z No reverse recovery current

V_{RRM}	=	1200	V
$I_F (T_C = 145\text{ }^\circ\text{C})$	=	50	A
Q_C	=	303	nC

Benefits

- z System efficiency improvement over Si diodes
- z Higher switching frequency
- z Increased power density
- z Essentially no switching losses

Package



TO-247-2



Applications

- z Switch mode power supplies (SMPS)
- z Uninterruptible power supplies
- z 2 Q% R D U G & K D U J H U
- z UPS

Part Number	Package	Marking
⊕ &	TO-247-2	⊕' &

Maximum Ratings

Symbol	Parameter	Test conditions	Value	Unit
V_{RRM}	Repetitive peak reverse voltage		1200	V
V_{RSM}	Non-repetitive peak reverse voltage		1200	V
I_F	Continuous forward current	$T_C=25^\circ\text{C}$ $T_C=135^\circ\text{C}$ $T_C=145^\circ\text{C}$	130 60 50	A
I_{FRM}	Repetitive forward surge current	$T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse	200 175	A
I_{FSM}	Non-Repetitive forward surge current	$T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse	400 350	A
$\int i^2 dt$	i^2t value	$T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse $T_C=110^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse	800 612.5	A ² S
P_{tot}	Power dissipation	$T_C=25^\circ\text{C}$ $T_C=110^\circ\text{C}$	469 203	W
T_j	Operating junction temperature		-55~175	°C
T_{stg}	Storage temperature		-55~175	°C

Electrical Characteristics

Static Characteristics

Symbol	Parameter	Test conditions	Value			Unit
			Min.	Typ.	Max.	
V_{DC}	DC blocking voltage	$T_j=25^\circ\text{C}$	1200			V
V_F	Diode forward voltage	$I_F=50\text{A}$ $T_j=25^\circ\text{C}$ $I_F=50\text{A}$ $T_j=175^\circ\text{C}$		1.4 1.9	1.8	V
I_R	Reverse current	$V_R=1200\text{V}$ $T_j=25^\circ\text{C}$ $V_R=1200\text{V}$ $T_j=175^\circ\text{C}$		1 10	100 200	μA

AC Characteristics

Symbol	Parameter	Test conditions	Value			Unit
			Min.	Typ.	Max.	
Q_C	Total capacitive charge	$V_R=800\text{V}$ $T_j=25^\circ\text{C}$ $Q_C = \int_0^{V_R} C(V)dV$		303		nC
C	Total capacitance	$V_R=1\text{V}$ $f=1\text{MHz}$ $V_R=400\text{V}$ $f=1\text{MHz}$ $V_R=800\text{V}$ $f=1\text{MHz}$		4060 282 204		pF

Thermal Characteristics

Symbol	Parameter	Value			Unit
		Min.	Typ.	Max.	
$R_{th(jc)}$	Thermal resistance from junction to case		0.32		°C/W

