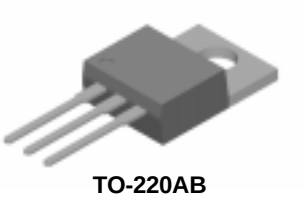
FAIRCHILD SEMICONDUCTOR™

Discrete POWER & Signal Technologies

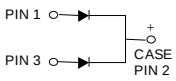
MBR2535CT - MBR2560CT

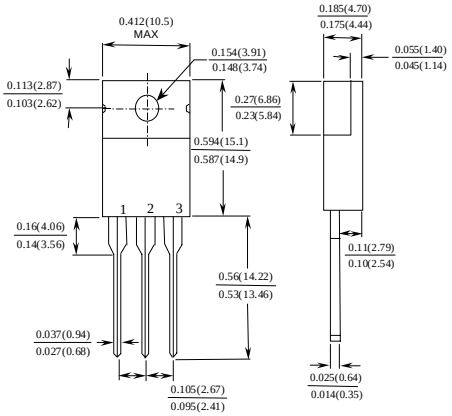
Features

- Low power loss, high efficiency.
- High surge capacity.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Metal silicon junction, majority carrier conduction.
- High current capacity, low forward voltage drop.
- Guard ring for over voltage protection.



TO-220AB





Dimensions are in: inches (mm)

30 Ampere Schottky Barrier Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current .375 " lead length @ T_A = 130°C	30	A
$i_{f(repetitive)}$	Peak Repetitive Forward Current (Rated V_R , Square Wave, 20 KHz) @ T_A = 130°C	30	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	150	A
P_D	Total Device Dissipation Derate above 25°C	2.0 16.6	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	60	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	1.5	°C/W
T_{stg}	Storage Temperature Range	-65 to +175	°C
T_J	Operating Junction Temperature	-65 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

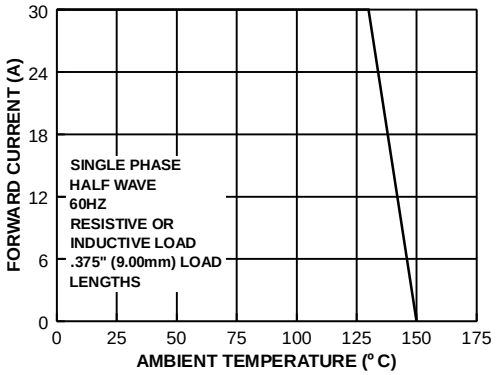
Electrical Characteristics

T_A = 25°C unless otherwise noted

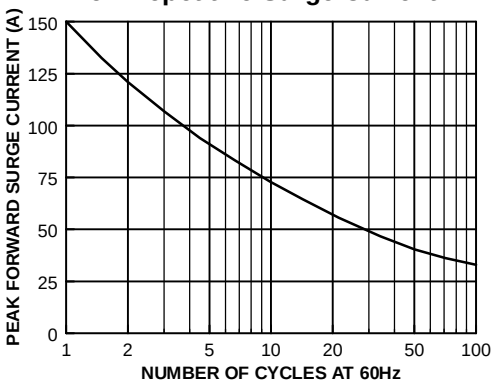
Parameter	Device				Units
	2535CT	2545CT	2550CT	2560CT	
Peak Repetitive Reverse Voltage	35	45	50	60	V
Maximum RMS Voltage	24	31	35	42	V
DC Reverse Voltage (Rated V_R)	35	45	50	60	V
Voltage Rate of Change (Rated V_R)	10,000				V/uS
Maximum Reverse Current @ rated V_R T_A = 25°C T_A = 125°C	0.2 40		1.0 50		mA mA
Maximum Forward Voltage I_F = 15 A, T_C = 25°C I_F = 15 A, T_C = 125°C I_F = 30 A, T_C = 25°C I_F = 30 A, T_C = 125°C	 - - 0.82 0.73		 0.75 0.65 - -		 V V V V
Peak Repetitive Reverse Surge Current 2.0 us Pulse Width, f = 1.0 KHz	1.0		0.5		A

Typical Characteristics

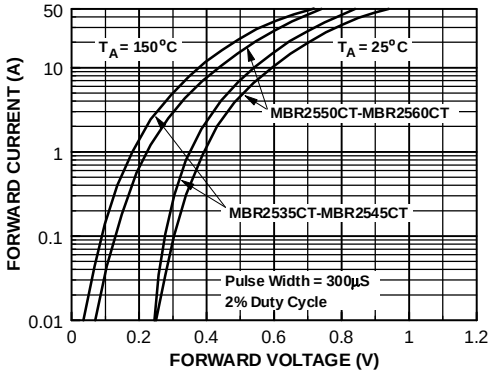
Forward Current Derating Curve



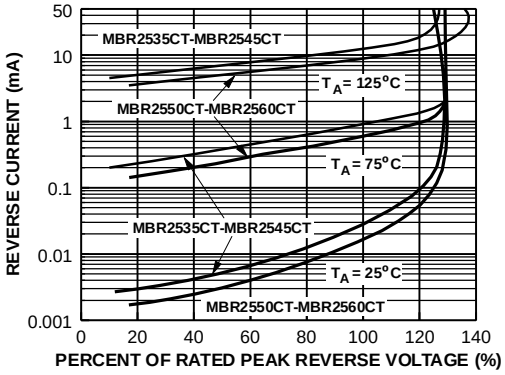
Non-Repetitive Surge Current



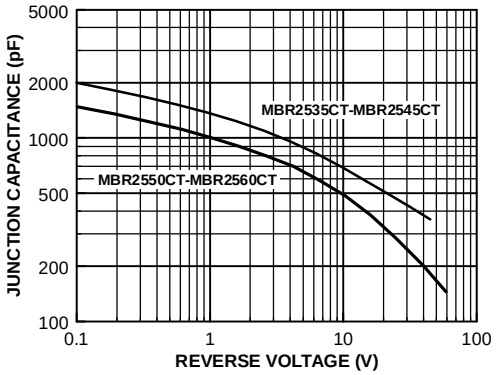
Forward Characteristics



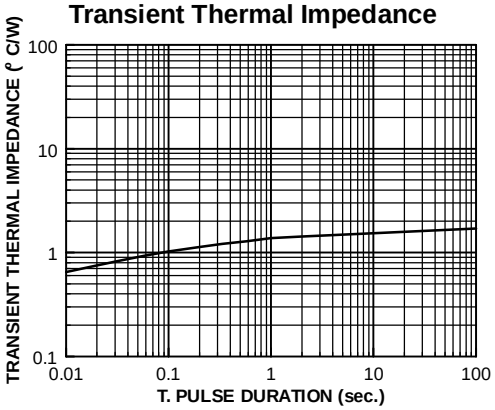
Reverse Characteristics



Typical Junction Capacitance



Transient Thermal Impedance



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Definition of Terms

Datasheet Identification	Product Status	Definition
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