

Features

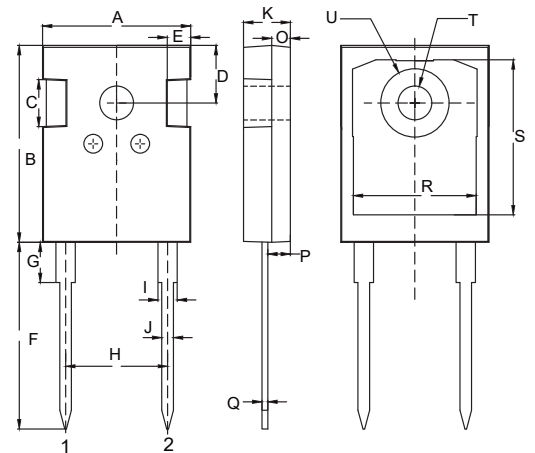
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	420	V
Average Rectified Forward Current	$I_{F(AV)}$	30	A
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	I_{FSM}	300	A
Current Squared Time @ 1ms≤t≤8.3ms	I^2t	373.5	A ² s

**30 Amp
Ultrafast Recovery
Rectifier
600 Volts**

TO-247AD



Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

Note :1. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.602	0.642	15.30	16.30	
B	0.799	0.839	20.30	21.30	
C	0.189	0.205	4.80	5.20	
D	0.242		6.15		BSC.
E	0.091	0.106	2.30	2.70	
F	0.768	0.807	19.50	20.50	
G	-----	0.189	-----	4.80	
H	0.428		10.88		BSC.
I	0.075	0.087	1.91	2.21	
J	0.044	0.054	1.11	1.36	
K	0.189	0.205	4.80	5.20	
O	0.073	0.085	1.85	2.15	
P	0.087	0.103	2.21	2.61	
Q	0.020	0.030	0.51	0.75	
R	0.512	0.535	13.00	13.60	
S	0.640	0.663	16.25	16.85	
T	0.134	0.150	3.40	3.80	Φ
U	-----	0.287	-----	7.30	Φ

Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case			0.65		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Free in Air		40		°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=30A; T_J=25^\circ C$		1.55	1.80	V
		$I_F=30A; T_J=125^\circ C$		1.30	1.60	
Reverse Current	I_R	$V_R=600V; T_J=25^\circ C$			5	μA
		$V_R=600V; T_J=125^\circ C$			200	
Junction Capacitance	C_J	$V_R=4V; f=1MHz; T_J=25^\circ C$		180		pF

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Recovery Time	t_{rr}	$I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^\circ C$		33	45	ns
		$T_J=25^\circ C$		69		
		$T_J=125^\circ C$		115		
Peak Recovery Current	I_{RRM}	$I_F=30A$ $d_{IF}/d_t=-200A/\mu s$ $V_{RM}=400V$	$T_J=25^\circ C$		5.1	A
			$T_J=125^\circ C$		12.9	
Reverse Recovery Charge	Q_{rr}		$T_J=25^\circ C$		176	nC
			$T_J=125^\circ C$		740	

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

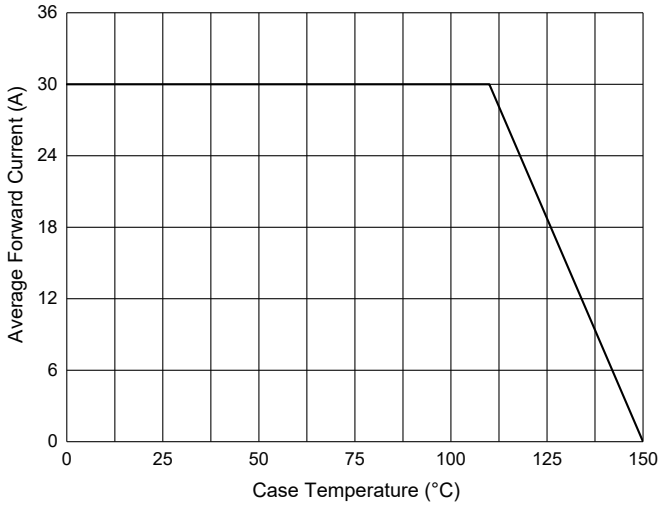


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

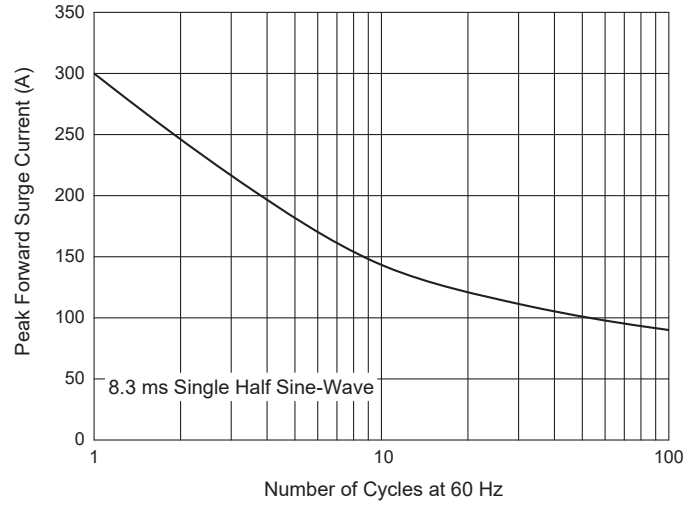


Fig. 3 - Typical Forward Characteristics

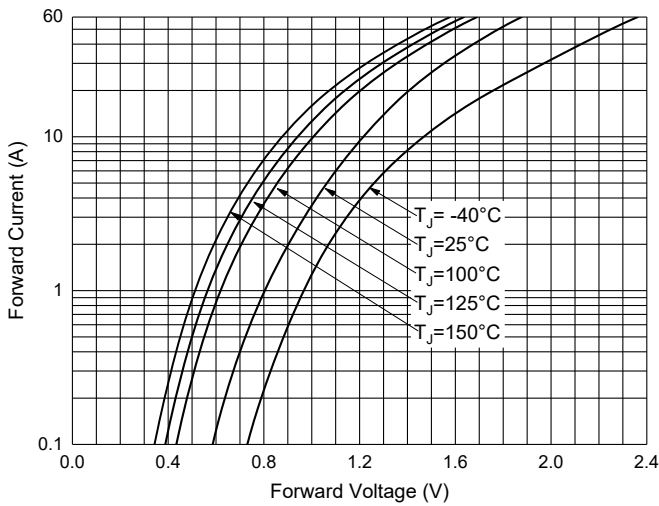


Fig. 4 - Typical Reverse Leakage Characteristics

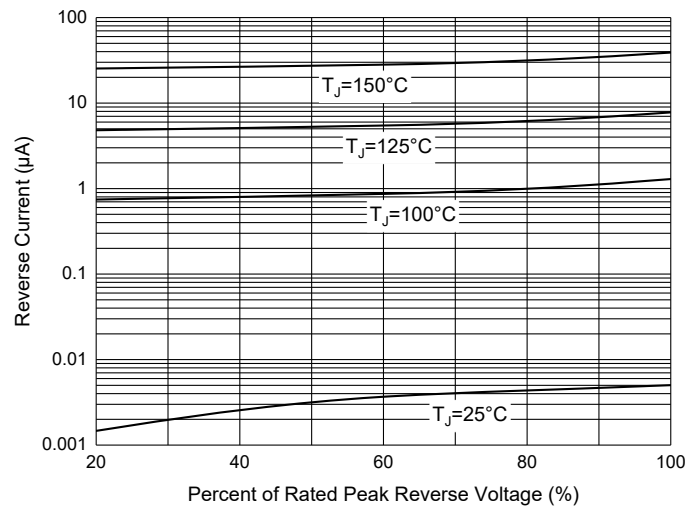


Fig. 5 - Typical Capacitance Characteristics

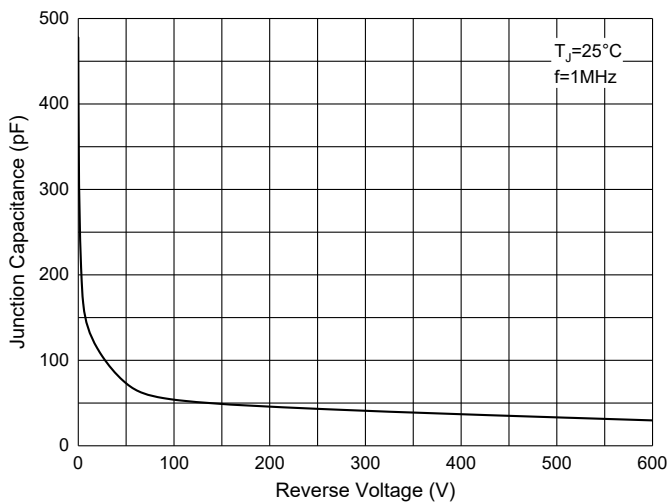
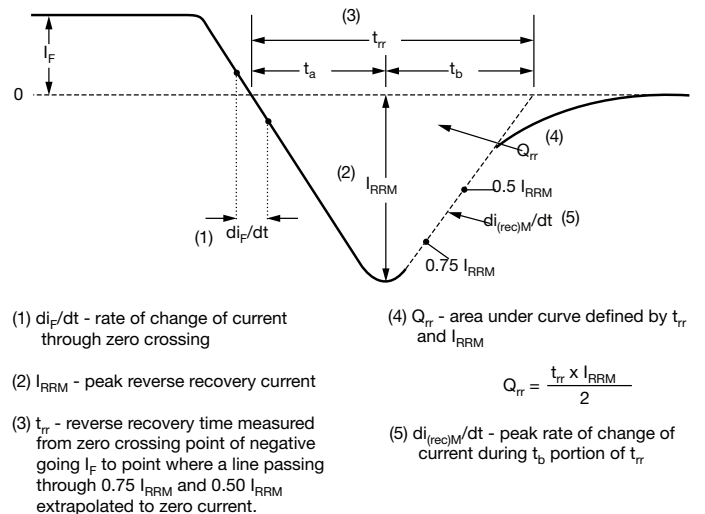


Fig. 6 - Reverse Recovery Waveform and Definitions



Ordering Information

Device	Packing
Part Number-BP	Bulk:30pcs/Tube,360pcs/Box,1.8Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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