

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
- High Frequency Operation
- High Surge Forward Current Capability
- Planar Structure Die and Soft Recovery Characteristics

60 Amp Ultra Fast Recovery Rectifier 650 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit		
Peak Repetitive Reverse Voltage	V_{RRM}				
Working Peak Reverse Voltage	V _{RWM}	650	V		
DC Blocking Voltage	V _R				
RMS Reverse Voltage	V _{RMS}	455	V		
Average Rectified Forward Current	I _{F(AV)}	60	Α		
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	I _{FSM}	500	А		
Current Squared Time @ 1ms≤t≤8.3ms	l ² t	1037.5	A ² s		

TO-247AD

Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode	Mcc	PIN 1 ∘
		MUR6065BL	PIN 2 CASE
		1 2	

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

DIM	INCHES		MM		NOTE
DIM	MIN	MAX	MIN	MAX	NOTE
Α	0.602	0.642	15.30	16.30	
В	0.799	0.839	20.30	21.30	
С	0.189	0.205	4.80	5.20	
D	0.2	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	
Ι	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	
0	0.073	0.085	1.85	2.15	
Р	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	
Т	0.134	0.150	3.40	3.80	Ф
U		0.287		7.30	Ф



Thermal characteristics

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
TJ	Operating Junction Temperature Range		-55		175	°C
T _{stg}	Storage Temperature Range		-55		175	°C
Rth _(J-C)	Thermal Resistance from Junction to Case			0.5		°C/W
Rth _(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	Тур	Max	Unit
Forward Voltage	V _F	I _F =60A;T _J =25°C		1.90	2.20	V
		I _F =60A;T _J =125°C		1.41	2.00	V
Reverse Current	I _R	V _R =650V;T _J =25°C			10	μA
		V _R =650V;T _J =125°C			1	mA
Junction Capacitance	CJ	V _R =4V;f=1MHz;T _J =25°C		180		pF

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions		Min	Тур	Max	Unit		
		I _F =0.5A; I _R =1.0A;I _{RR} =0.25A;T _J =25°C			36	50			
		I _F =1A;d _{iF} /d _t =-100A/μs;V _{RM} =30V;T _J =25°C			32				
Reverse Recovery Time	t _{rr}		T _J =25°C		52		ns		
			T _J =125°C		74				
Dook Doorway Cumant	loon			I _F =60A d _{iF} /d _t =-1000A/μs	T _J =25°C		15.4		Α
Peak Recovery Current I _R		V _{RM} =400V	T _J =125°C		33.7				
Payaraa Pagayary Chargo	0		T _J =25°C		379		»C		
Reverse Recovery Charge Q _{rr}	T _J =125°C		1	1651		- nC			



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

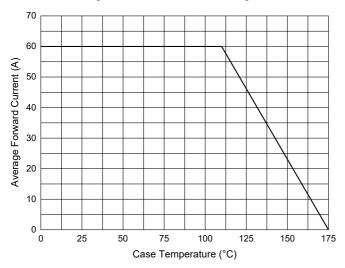


Fig. 3 - Typical Forward Characteristics

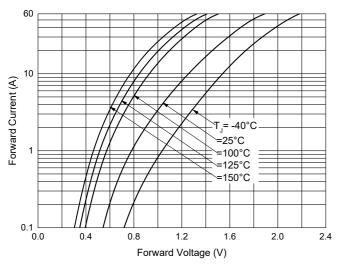


Fig. 5 - Typical Capacitance Characteristics

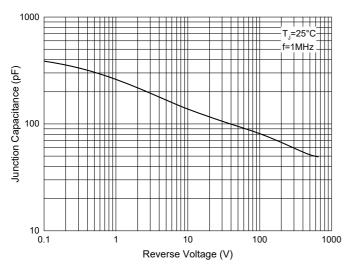


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

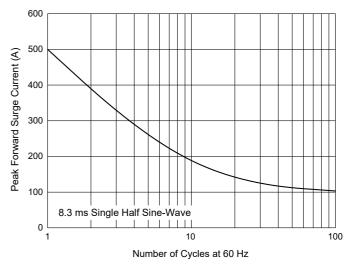


Fig. 4 - Typical Reverse Leakage Characteristics

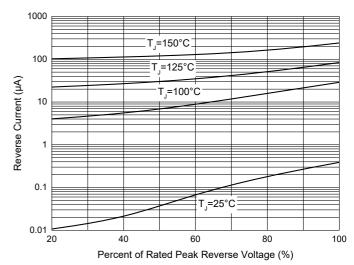
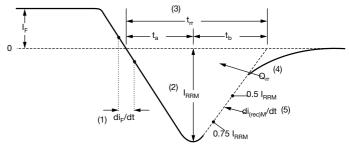


Fig. 6 - Reverse Recovery Waveform and Definitions



- (1) di_F/dt rate of change of current through zero crossing
- (2) I_{RRM} peak reverse recovery current
- (3) $t_{\rm fr}$ reverse recovery time measured from zero crossing point of negative going $I_{\rm F}$ to point where a line passing through 0.75 $I_{\rm RRM}$ and 0.50 $I_{\rm RRM}$ extrapolated to zero current.
- (4) Q_{rr} area under curve defined by t_{rr} and I_{RRM}

$$Q_{rr} = \frac{t_{rr} \times I_{RRM}}{2}$$

(5) di_{(rec)M}/dt - peak rate of change of current during t_b portion of t_{rr}



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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