



**ELECTRICAL SPECIFICATIONS**

**Forward Conduction**

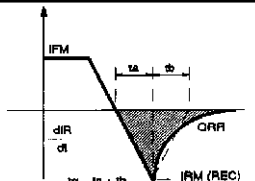
Parameters	Value	Units	Conditions
$I_{(A)}$ Maximum average forward current	60	A	180° conduction, half sine cond. @ Case temperature = 82°C
	67	A	180° conduction, rect. cond. @ Case temperature = 82°C
$I_{(RMS)}$ Maximum RMS current	94	A	
$I_{SM}$ Maximum peak, one-cycle non-repetitive forward current Initial $I_T = I_{T, max}$	830	A	$t = 10ms$ No voltage reapplied
	870	A	$t = 8.3ms$
	700	A	$t = 10ms$ 100% $V_{RRM}$ reapplied
	730	A	$t = 8.3ms$
PI Maximum PI (or fusing) Initial $T_J = T_{J, max}$	3480	A <sup>2</sup> s	$t = 10ms$ No voltage reapplied
	3190	A <sup>2</sup> s	$t = 8.3ms$
	2490	A <sup>2</sup> s	$t = 10ms$ 100% $V_{RRM}$ reapplied
	2240	A <sup>2</sup> s	$t = 8.3ms$
PIV Maximum PIV (or fusing)	34800	A <sup>2</sup> /C	$t = 0$ to 10ms, no voltage reapplied
$V_{(TH)}$ Maximum value of the threshold voltage	1.08	V	$T = 125°C$
$r_f$ Maximum value of forward state resistance	3.40	mΩ	$T = 125°C$
$V_{FU}$ Maximum forward voltage drop	1.50	V	$I_{SM} = 60 A_{pk}, T_J = 25°C$
	1.30	V	$I_{SM} = 60 A_{pk}, T_J = 125°C$

**Thermal and Mechanical Specifications**

$T_J$ Junction temperature range	-40 to 125	°C	
$T_{STG}$ Storage temperature range	-40 to 150	°C	
$R_{JC}$ Maximum thermal resistance junction to case	0.36	K/W	DC operation per junction
$R_{JCS}$ Maximum thermal resistance, case to heatsink	0.25	K/W	Mounting surface, smooth and greased
T Mounting torque, base to heatsink ±10%	2.5	Nm	A mounting compound is recommended and the torque should be rechecked after a period of about 3 hours to allow for the spread of the compound
wt. Approximate weight	25	g	

**Recovery Characteristics**

Parameters	Typ.	Max.	Units	Conditions
$t_{rr}$ Recovery time	60	80	ns	$T_J = 25°C, I_F = 1A, dI/dt = -100 A/μs, V_R = -30V$
$Q_{rr}$ Recovered charge	250	300	nC	$T_J = 25°C, I_F = 1A, dI/dt = -100 A/μs, V_R = -30V$



**Voltage ratings ( $T_J = T_{J, max}$ )**

Type number	$V_{RRM}$ - maximum repetitive peak reverse voltage	$V_{RSM}$ - maximum non-repetitive peak reverse voltage	$I_{SM, Max}$ @ 100°C	$I_{SM, Max}$ @ 150°C	$I_{SM, Typ.}$ @ 25°C
	V	V	mA	mA	μA
60HF U(R)-100	100	130	5	15	50
60HF U(R)-200	200	220	5	15	50
60HF U(R)-300	300	330	5	15	50
60HF U(R)-400	400	440	5	15	50
60HF U(R)-500	500	550	5	25	50
60HF U(R)-600	600	660	5	25	50

**ΔR Conduction (per junction)**

(The following table shows the increment of thermal resistance  $R_{th(j-c)}$  when devices operate at different conduction angles than DC.)

Conduction angle	Sinusoidal Conduction	Rectangular Conduction	Units	Conditions
180°	0.06	0.06	K/W	
120°	0.08	0.09	K/W	
90°	0.10	0.12	K/W	
60°	0.15	0.18	K/W	
30°	0.24	0.24	K/W	

Fig.1 - Maximum Forward Energy Loss Per Pulse Characteristics

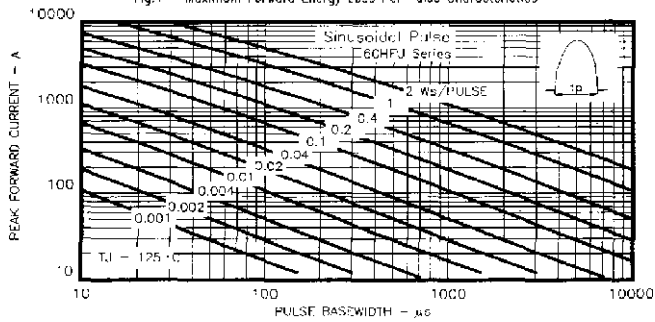
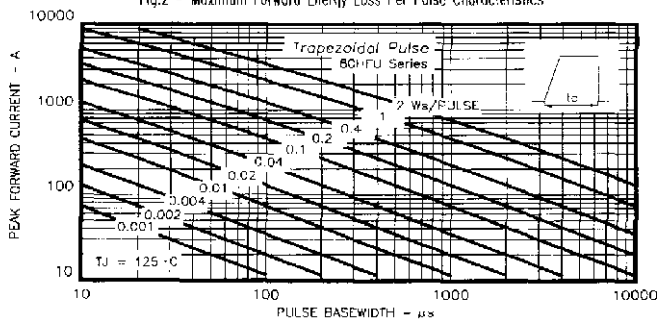
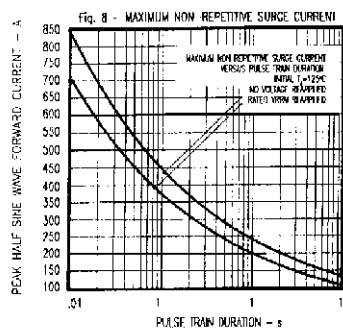
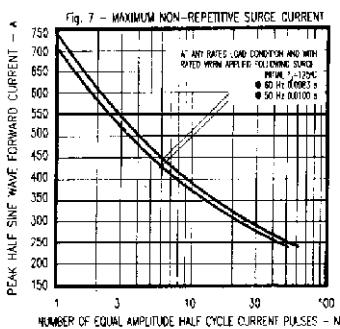
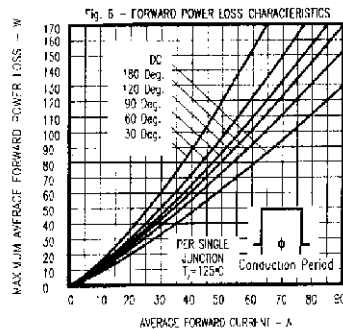
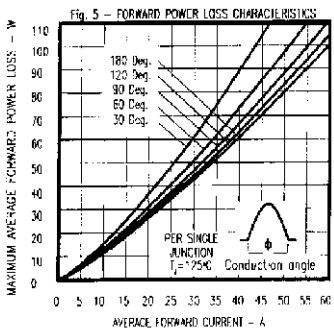
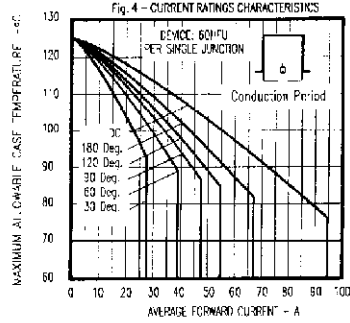
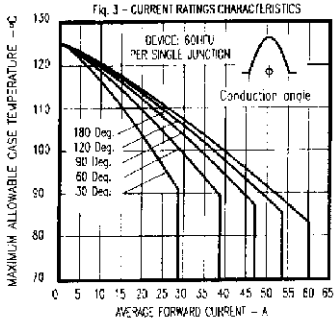
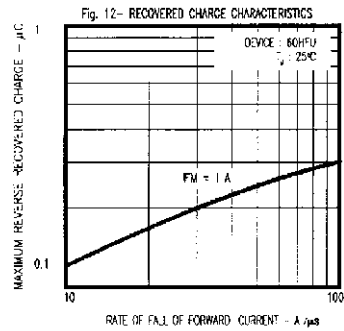
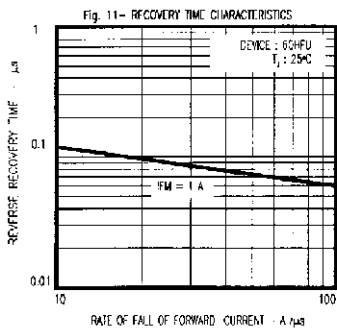
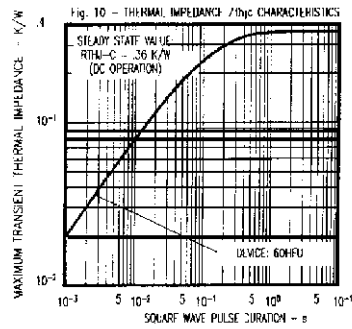
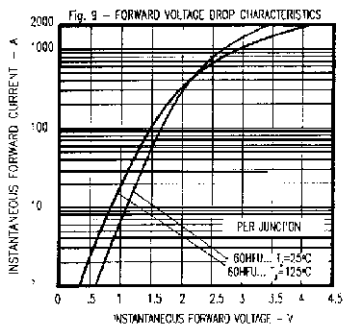


Fig.2 - Maximum Forward Energy Loss Per Pulse Characteristics









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