

SEMITRONICS CORP.

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SPD6060

60 Amp 600 Volt
High Efficiency

FEATURES

- Isolated Case
- Hermetically Sealed Package
- Soft Recovery feature
- 35ns Recovery Time
- Low Reverse Leakage
- MIL STX Screening Available

APPLICATIONS

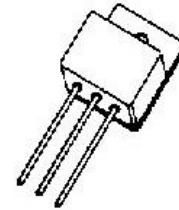
- High Reliability Power Supplies
- Switching Power Supplies
- Battery Back-Up Supplies
- High Current Switching

DESCRIPTION

The SPD6060 is a 60 Amp, 600 volts, 35ns. Fast Recovery Power Rectifier packaged in three lead hermetically sealed TO-258 metallic package.

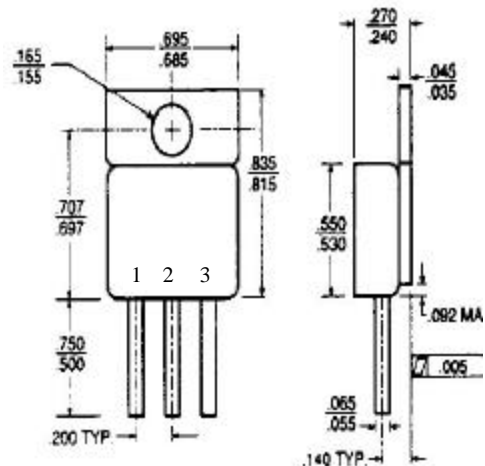
Custom Lead Forming Available.
Ceramic Feedthroughs Available.
Add STX suffix for Military screening

PACKAGE



TO-258

CASE OUTLINE



Pin 1: Cathode Pin 2: N/C Pin 3: Anode

ABSOLUTE MAXIMUM RATINGS @ 25° C

Peak Reverse Voltage (V_{RRM})	600 Volts
Maximum Average D.C. Output Current (I_{FAVM}) @ $T_c = 110^\circ\text{C}$, rectangular, $d=0.5$	60 Amps
Non-Repetitive Surge Current (I_{FSM}) 10 ms $T_v=45^\circ\text{C}$, sine	600 Amps
Total Power Dissipation (P_{tot})	230 W
Single Pulse Avalanche Energy (E_{AS}) $I_{AS}=1.6\text{A}$; $L=180\mu\text{H}$	0.3 mJ
Junction Temperature Range	- 55° C to + 150° C
Storage Temperature Range	- 55° C to + 175° C
Maximum Thermal Resistance, Junction to Case	0.42° C/W

ELECTRICAL CHARACTERISTICS—cont.

Maximum Forward Voltage (V_F) @ 60 A + $T_j = 25^\circ\text{C}$	.....	2.04 Volts
@ 60 A + $T_j = 150^\circ\text{C}$	.....	1.39 Volts
Maximum Reverse Current (I_R) @ 600 V + $T_j = 25^\circ\text{C}$	.....	650 μA
@ 600 V + $T_j = 150^\circ\text{C}$	.....	2.5 mA
Typical Rev Recovery (t_{rr})	.....	35 ns
@ $T_j = 25^\circ\text{C}$, $I_F = 1.0\text{A}$, $di/dt = 300\text{A/us}$, $V_R = 30\text{V}$		
Maximum Rev. Recovery Current (I_{RM})	.....	8.3 A
@ $T_j=100^\circ\text{C}$, $V_R=100\text{V}$, $I_F=130\text{A}$, $di/dt=100\text{A/us}$		

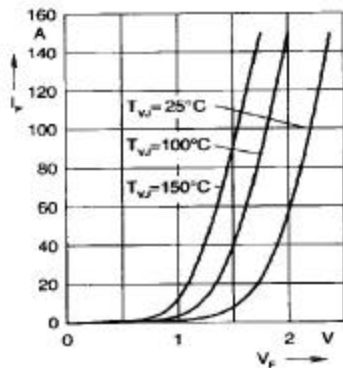


Fig. 1 Forward current I_F versus V_F

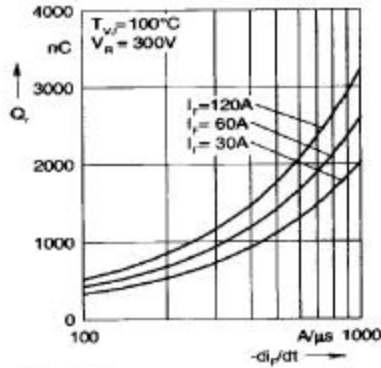


Fig. 2 Reverse recovery charge Q_r versus $-di_F/dt$

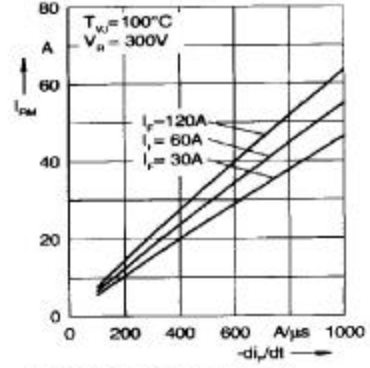


Fig. 3 Peak reverse current I_{RM} versus $-di_F/dt$

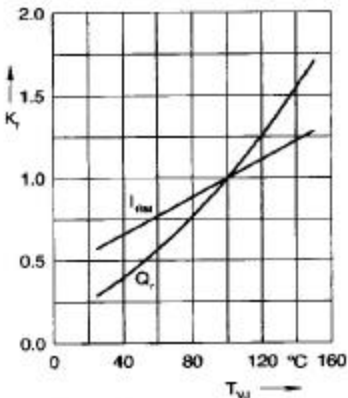


Fig. 4 Dynamic parameters K_T , I_{RM} versus T_{vj}

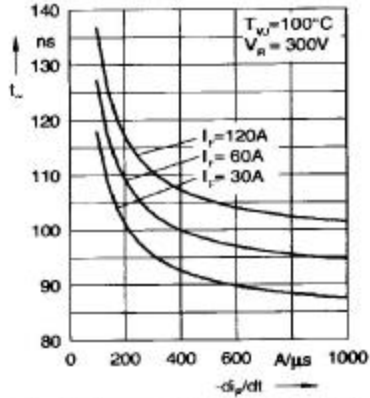


Fig. 5 Recovery time t_r versus $-di_F/dt$

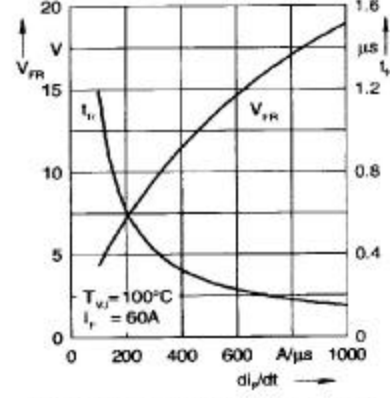


Fig. 6 Peak forward voltage V_{FR} and t_r versus di_F/dt