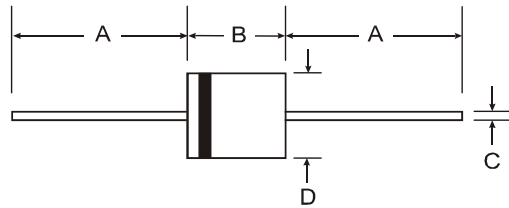


Features

- High Surge Current Capability
- Low Leakage and Forward Voltage Drop
- **Lead Free Finish, RoHS Compliant (Note 1)**

Mechanical Data

- Case: R-6
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Axial Leads, Solderable per MIL-STD-202, Method 208 (g3)
- Polarity: Color Band Indicates Cathode
- Ordering Information: See Page 3
- Approximate Weight: 2.1 grams



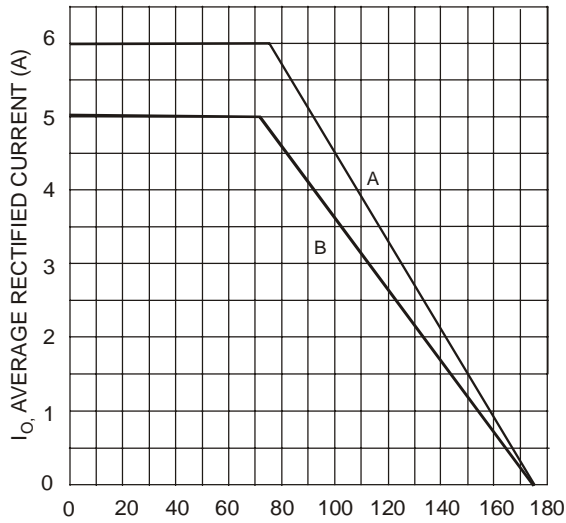
R-6		
Dim	Min	Max
A	25.40	-
B	8.60	9.10
C	1.20	1.30
D	8.60	9.10
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @T_A = 25°C unless otherwise specified

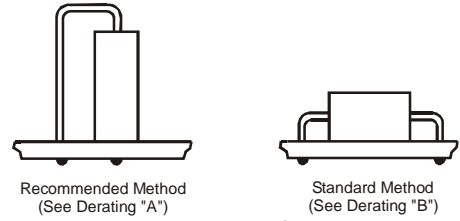
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, halfwave, 60Hz, resistive or inductive load.

Characteristic	Symbol	6A05	6A1	6A2	6A4	6A6	6A8	6A10	Unit
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 9.5mm lead length @ T _A = 75°C (See Fig. 1)	I _(AV)	6.0							A
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	400							A
Maximum Instantaneous Forward Voltage at 6.0A DC	V _{FM}	0.90							V
Maximum DC Reverse Current @ T _A = 25°C at Rated Blocking Voltage @ T _A = 100°C	I _{RM}	10 100							μA
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +175							°C

Notes: 1. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.



T_A, AMBIENT TEMPERATURE (°C)
Fig. 1 Output Current Derating Curve



Ground Plane: 25mm² equivalent copper surface area

Printed Circuit Board Mounting Method

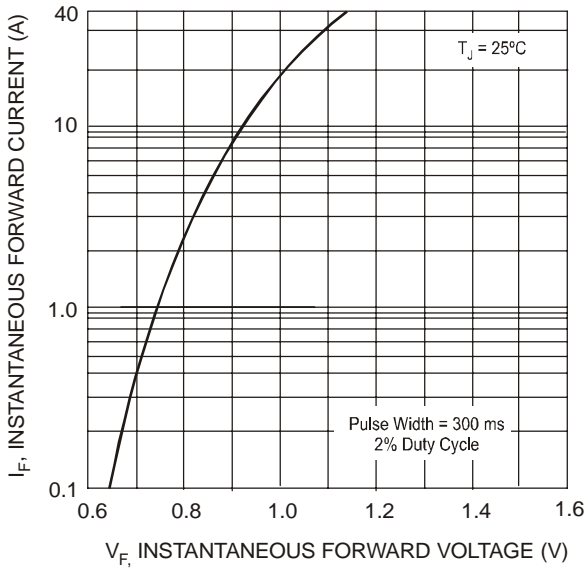


Fig. 2 Typical Forward Characteristics

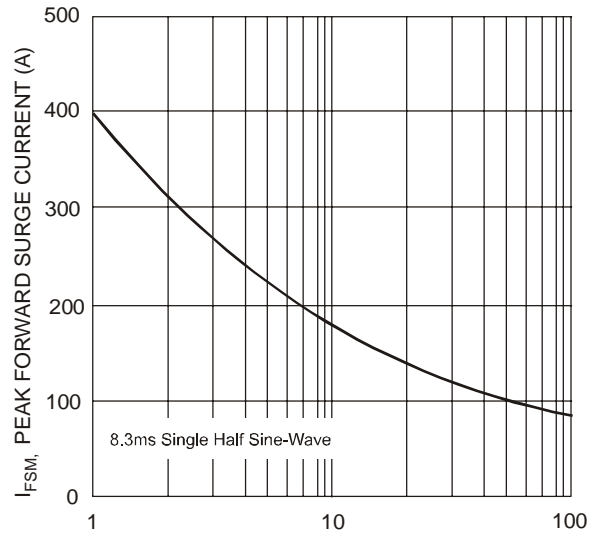


Fig. 3 Maximum Non-Repetitive Peak Forward Surge Current

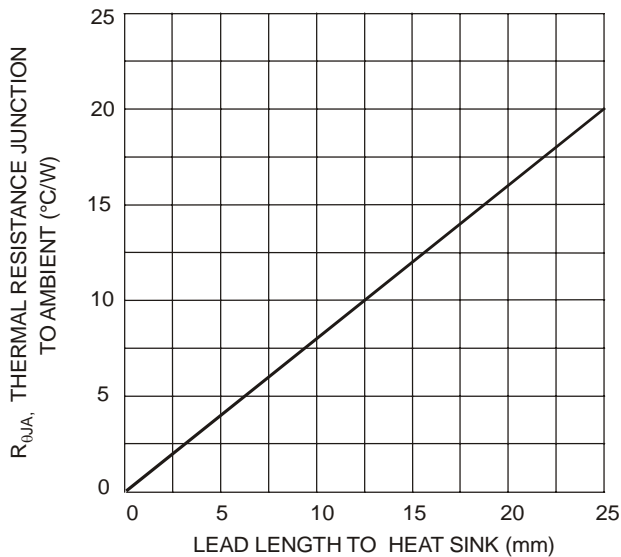


Fig. 4 Typical Thermal Resistance (Using Standard Mounting Method "B")

Ordering Information (Note 2)

Device	Packaging	Shipping
6A05-T	R-6	500/Tape & Reel, 13-inch
6A1-T	R-6	500/Tape & Reel, 13-inch
6A2-T	R-6	500/Tape & Reel, 13-inch
6A4-T	R-6	500/Tape & Reel, 13-inch
6A6-T	R-6	500/Tape & Reel, 13-inch
6A8-T	R-6	500/Tape & Reel, 13-inch
6A10-T	R-6	500/Tape & Reel, 13-inch

Notes: 2. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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- Transistor (BJT) Master Table
 - Transistors < 25V
 - Transistors 30V to 50V
 - Transistors 55V to 100V
 - Transistors >100V
- Gate Drivers
- Avalanche Transistors
- Pre-Bias Transistors
- Darlington Transistors

6A4

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Datasheet



also used by 6A05, 6A1, 6A10, 6A2, 6A6, 6A8
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Features and Benefits

- High Surge Current Capability
- Low Leakage and Forward Voltage Drop
- Lead Free Finish, RoHS Compliant (Note 1)

- Transistor and Schottky Combination
- H-Bridge
- Matched Pairs
- RF Transistors

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Product Overview Specs

MOSFETs

- N Channel
 - N Channel 20V
 - N Channel 30V
 - N Channel 31V - 99V
 - N Channel ≥100V
- P Channel
 - P Channel 20V
 - P Channel 30V
 - P Channel 31V - 99V
 - P Channel ≥ 100V
- Complementary Pair (N+P)
 - 20V Complementary
 - 30V Complementary
 - 31V to 100V Complementary
- MOSFET plus SBR
- MOSFET plus BJT
- IntelliFET
- H Bridge
- DIOFET™ (Diodes Schottky Integrated MOSFET)

Protection Devices

- Zener TVSs
- Thyristor Surge Protection Devices (TSPDs)
- Data Line Protection

Functional Arrays

- Relay Drivers
- Discrete - Load Switches
- Discrete - Voltage Regulators
- Discrete - LED Driver Solutions

Part Number	6A4
Total Capacitance C_T pF	
Max Average Rectified Current I_O A	6
Peak Repetitive Reverse Voltage V_{RRM} V	400
Peak Forward Surge Current I_{FSM} A	400
Forward Voltage Drop V_F V	0.9
Max Reverse Current I_R μA	10

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Configuration: Single



Analog

Power Management ICs

Switching regulators

DC-DC Converters
(Internal switch)

Buck
Boost

Buck/Boost/Inverter

DC-DC Controllers
(External switch)

Buck
Boost

Buck/Boost/Inverter

Low Dropout Regulators

Single LDOs

Dual LDOs

Power Switches

Load switches

USB switches

Single channel

Dual channel

Power Supply Control

Synchronous MOSFET
Controller

Active OR'ing Controller

Chargers

Protectors

Linear and Amplifiers:
Industry Standard Product
Range

Op Amps

Comparators

Current Monitors

Current Output

Voltage Output

Standard Linear
Regulators

Voltage References

Shunt Regulators

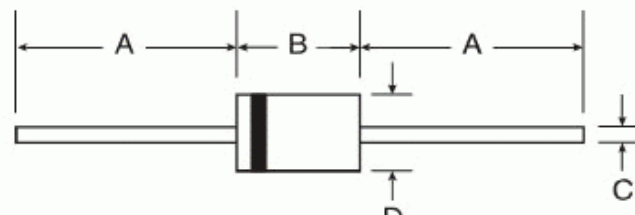
Distributor Stock Information / Buy Now

	Part Number	Distributor	Quantity	Inventory Date	Buy Online	Region
1	6A4-T	ARROW ELECTRONICS	16799	05/22/2011	Buy Now	UNITED STATES
2	6A4-T	AVNET ELECTRONICS MARKETING	10342	05/22/2011	Buy Now	UNITED STATES
3	6A4-T	FUTURE ELECTRONICS	10006	05/21/2011	Buy Now	UNITED STATES
4	6A4-T	DIGI-KEY CORPORATION	8000	05/21/2011	Buy Now	GLOBAL
5	6A4-T	MOUSER ELECTRONICS	4427	05/21/2011	Buy Now	UNITED STATES
6	6A4-T	DIGI-KEY CORPORATION	134	05/21/2011	Buy Now	GLOBAL
7	6A4-T	RUTRONIK ELEKTRONISCHE GMBH	2000	05/22/2011	Buy Now	GERMANY
8	6A4-T	FUTURE ELECTRONICS UK	2500	05/21/2011	Buy Now	UNITED KINGDOM
9	6A4-T	SILICA, AN AVNET COMPANY	12000	05/20/2011	Buy Now	GERMANY
10	6A4-T/BKN	AVNET ELECTRONICS MARKETING	140	05/22/2011	Buy Now	UNITED STATES

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- Special functions
 - Timer ICs
 - Current Mirror
- Reset Generators
- Lighting ICs

 - LED Drivers
 - Off-Line LED Drivers
 - Medium Voltage DC-DC LED Drivers
 - Low Voltage DC-DC LED Drivers
 - Linear LED Drivers
 - LED Drivers for Displays

- Audio

 - Direct Digital Feedback Amplifiers (DDFA™)
 - Analog Input Amplifiers

- DBS

 - GaAs FET bias generators
 - Fixed Bias Generators
 - Switched Bias Generators
 - DBS Controllers
 - Multiplexer Controllers
 - Interfaces
 - Power Management
 - Integrated IF Switch Matrix with Gain and Control

- Sensors

 - Temperature Sensors
 - AMR sensors
 - Angular
 - Hall Effect
 - Switches
 - Unipolar
 - Omnipolar
 - Bipolar latches
 - Single Output

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- [Features and applications](#)
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Complementary
Output

Smart Fan Driver

Motor Pre-Drivers

Logic

Single Gate

Dual Gate

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- 31V to 100V Complementary
- MOSFET plus SBR
- MOSFET plus BJT
- IntellifET
- H Bridge
- DIOFET™ (Diodes Schottky Integrated MOSFET)

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- Thyristor Surge Protection Devices (TSPDs)
- Data Line Protection

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- Discrete - Load Switches
- Discrete - Voltage Regulators
- Discrete - LED Driver Solutions

Analog

Power Management ICs

- Switching regulators
 - DC-DC Converters (Internal switch)
 - Buck
 - Boost
 - Buck/Boost/Inverter
 - DC-DC Controllers (External switch)
 - Buck
 - Boost
 - Buck/Boost/Inverter
- Low Dropout Regulators
 - Single LDOs
 - Dual LDOs
- Power Switches
 - Load switches
 - USB switches
 - Single channel
 - Dual channel

A	
Forward Voltage Drop V_F	0.9 V
Max Reverse Current I_R	10 μ A

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Distributor Stock Information / Buy Now

	Part Number	Distributor	Quantity	Inventory Date	Buy Online	Region
1	6A4-T	ARROW ELECTRONICS	16799	05/22/2011	Buy Now	UNITED STATES
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7	6A4-T	RUTRONIK ELEKTRONISCHE GMBH	2000	05/22/2011	Buy Now	GERMANY
8	6A4-T	FUTURE ELECTRONICS UK	2500	05/21/2011	Buy Now	UNITED KINGDOM
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