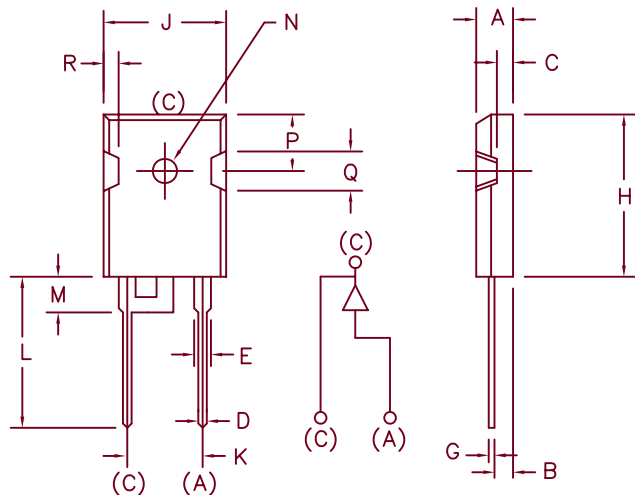


# 45 Amp Ultrafast Rectifiers

## UES4505S — UES4515S



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.31	
B	.087	.102	2.21	2.59	
C	.059	.098	1.50	2.49	
D	.040	.055	1.02	1.40	
E	.079	.094	2.01	2.39	
F	---	---	---	---	
G	.016	.031	.410	0.78	
H	.819	.883	20.80	22.4	
J	.627	.650	15.93	16.5	
K	.430	---	10.92	---	
L	.790	.810	20.07	20.6	
M	.157	.180	3.99	4.57	
N	.139	.144	3.53	3.66	Dia.
P	.255	.300	6.48	7.62	
Q	.170	.210	4.32	5.33	
R	.080	.110	2.03	2.79	

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
UES4505S		50V	50V
UES4510S		100V	100V
UES4515S		150V	150V

- Ultra Fast Recovery
- $V_{RRM}$  50–150 Volts
- High surge capacity
- 175°C junction temperature
- $t_{rr}$  50nS maximum

### Electrical Characteristics

Average Forward Current	$I_F(AV)$ 45 Amps	$T_C = 145^\circ C$ , Square wave
Average Forward Current	$I_F(AV)$ 500 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ 1.00 Volts	$I_{FM} = 45A, T_J = 25^\circ C^*$
Typical peak forward voltage	$V_{FM}$ .75 Volts	$I_{FM} = 45A, T_J = 125^\circ C^*$
Typical peak reverse current	$I_{RM}$ 250 $\mu A$	$V_{RRM}, T_J = 125^\circ C^*$
Max. peak reverse current	$I_{RM}$ 20 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 300 pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300 usec. Duty Cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to +175°C
Operating junction temp range	$T_J$	-55°C to +175°C
Max thermal resistance	$R_{\theta JC}$	0.8°C/W junction to case
Mounting torque		8–10 inch pounds (#6 screw)
Weight		.22 ounces (6.2 grams) typical



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05-31-07 Rev. 1

# UES4505S — UES4515S

Figure 1  
Typical Forward Characteristics

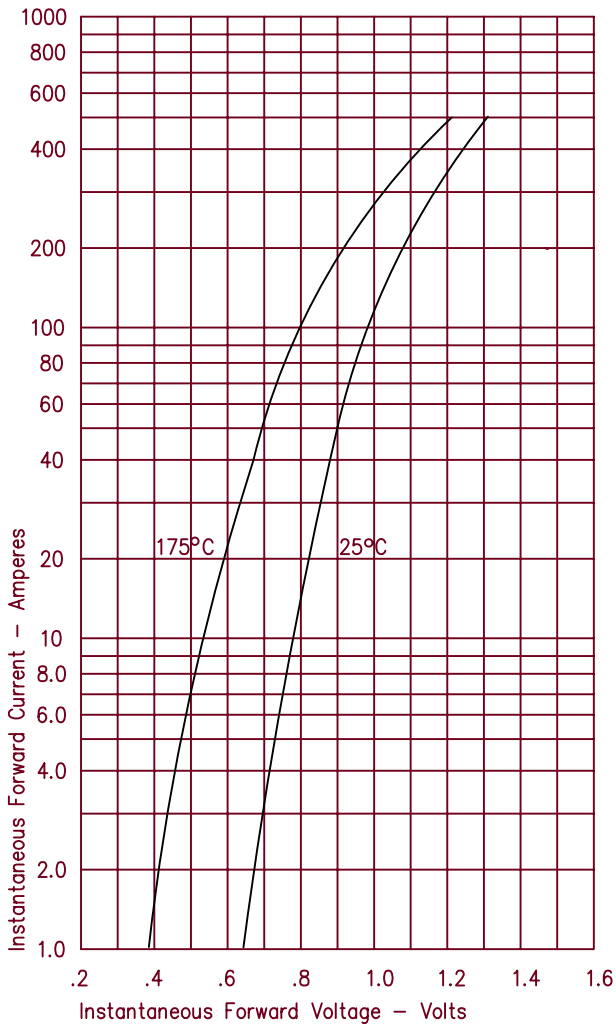


Figure 3  
Typical Junction Capacitance

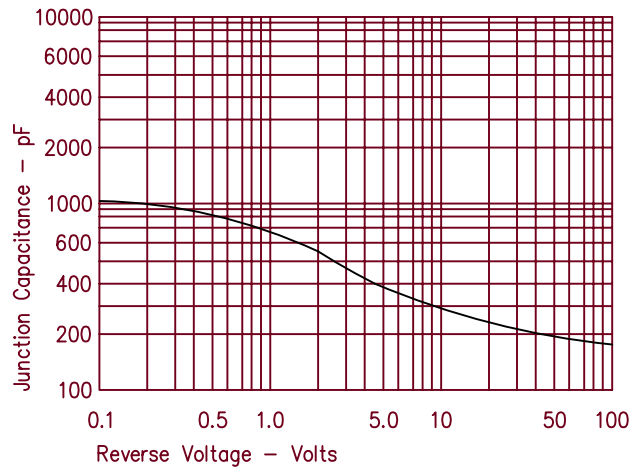


Figure 4  
Forward Current Derating

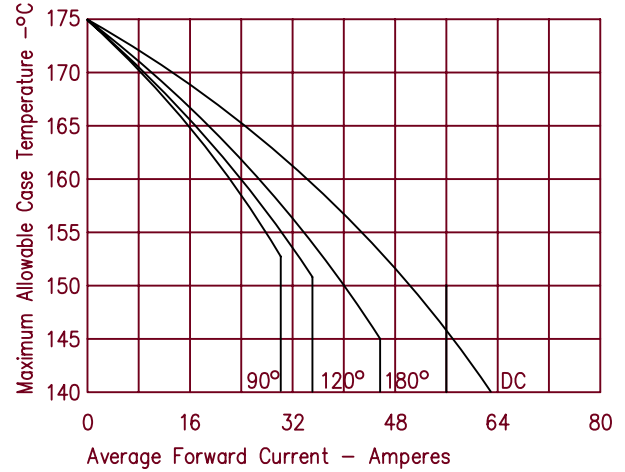


Figure 2  
Typical Reverse Characteristics

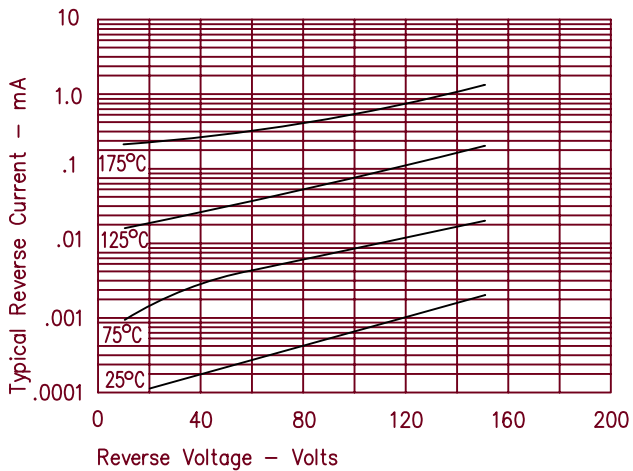


Figure 5  
Maximum Forward Power Dissipation

