DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

DGE3130C-DGE3150C

DUAL ULTRAFAST RECOVERY RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	DGE3130C	DGE3140C	DGE3150C	Unit
Peak Repetitive Reverse Voltage **Working Peak Reverse Voltage** **DC Blocking Voltage**	V_{RRM} V_{RWM} V_R	300 300 300	400 400 400	500 500 500	V
Average Forward Current Per Leg $T_C \leq 95°C$, Derate 0.375 A/°C above 95°C	$I_{F(AV)}$	30			A
Maximum Surge Current 8.3 ms, Half Sine Wave, $T_J = 175°C$	I_{FSM}	350			A
Operating Junction Temperature Range	T_J	-65 to 175			°C
Storage Junction Temperature Range	T_{stg}	-65 to 200			°C
Maximum Thermal Resistance Junction to Case	$R_{\Theta JC}$	2.2			°C/W
Typical Weight		28			grams

ELECTRICAL CHARACTERISTICS PER LEG ($T_A = 25°C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Peak Forward Voltage (1) ($I_F = 15A$, $T_C = 25°C$)	V_F	1.10	V
Maximum Peak Reverse Current ($V_R = V_{RRM}$, $T_C = 25°C$) ($V_R = V_{RRM}$, $T_C = 125°C$)	I_R	15 1.0	uA mA
Maximum Reverse Recovery Time $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{REC} = 0.25$ A	t_{RR}	50	ns
Typical Reverse Recovery Time $I_F = 0.5$ A, $I_R = 1.0$ A, $I_{REC} = 0.25$ A	t_{RR}	36	ns
Typical Junction Capacitance $V_R = 10$ V, f = 1 MHz	C_J	115	pF

(1) Pulse Test: Pulse Width 300 us, Duty Cycle ≤ 2%

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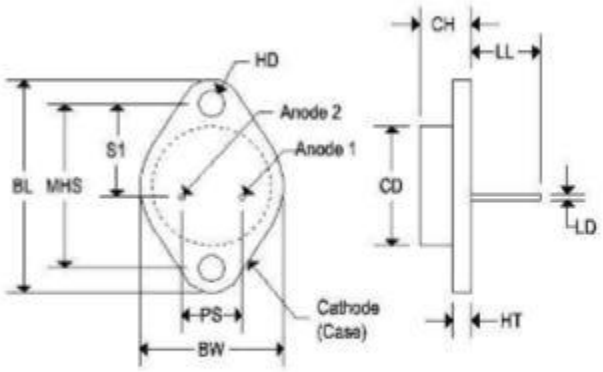
MECHANICAL CHARACTERISTICS

Case	TO-3 Hermetically Sealed Metal Case
Marking	Alpha-numeric
Pin out	See below



	TO-3 Dual			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	-	0.135	-	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150

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Figure 1
Typical Forward Characteristics – Per Leg

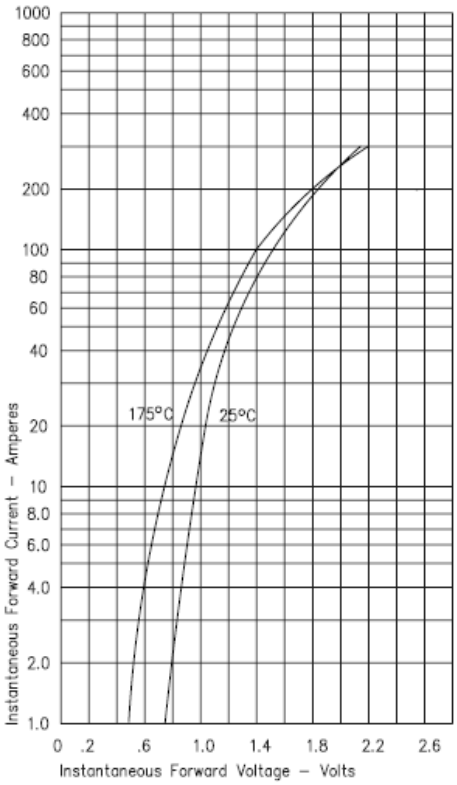

Figure 2
Typical Reverse Characteristics – Per Leg

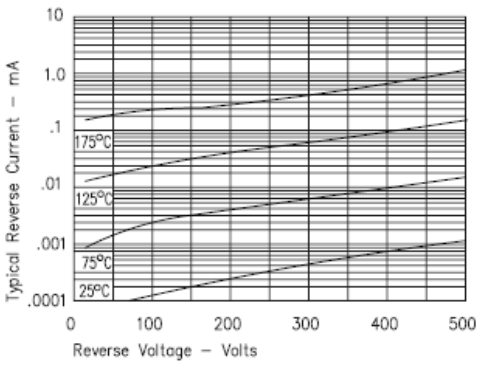

Figure 3
Typical Junction Capacitance – Per Leg

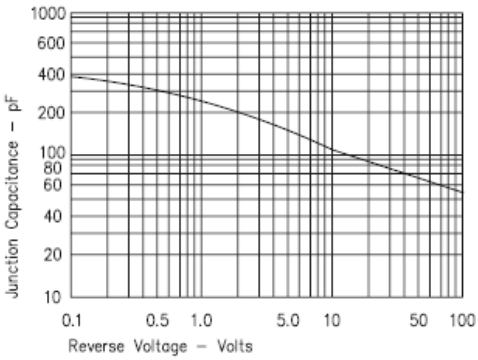

Figure 4
Forward Current Derating – Standard Polarity – Per Leg

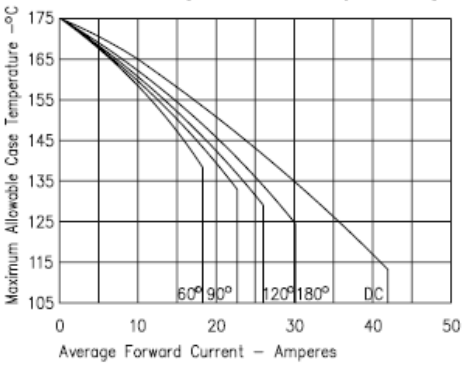

Figure 5
Forward Current Derating – Reverse Polarity – Per Leg

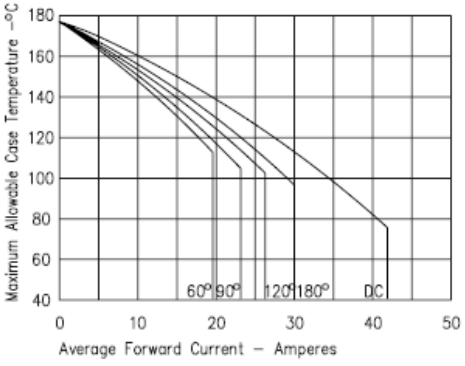

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Figure 6
Forward Current Derating – Standard Polarity – Per Leg

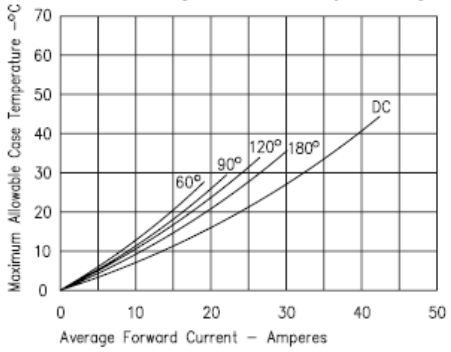

Figure 7
Forward Current Derating – Reverse Polarity – Per Leg