

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop



Mechanical Data

- Case: PowerDI-123
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Weight: 0.01 grams (approximate)



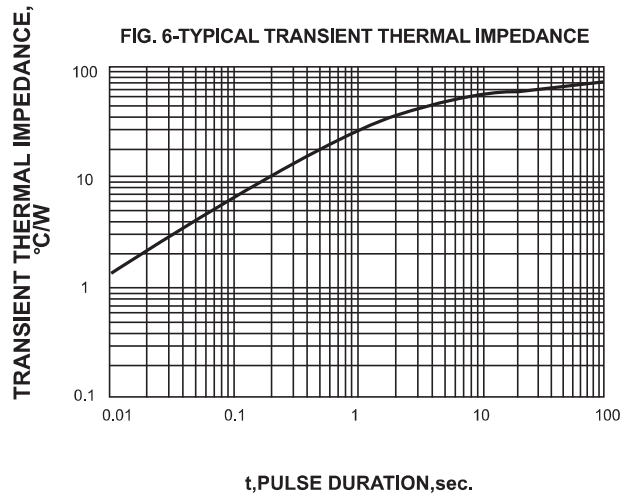
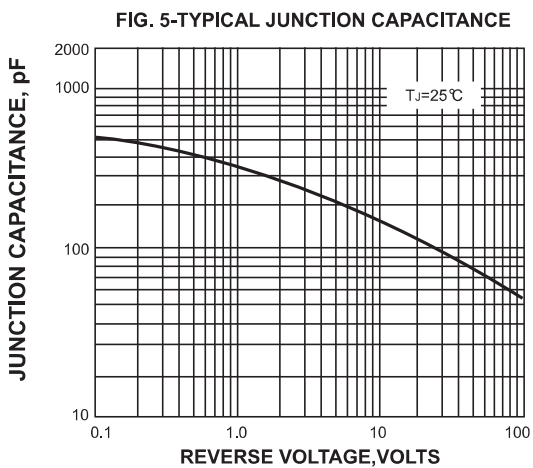
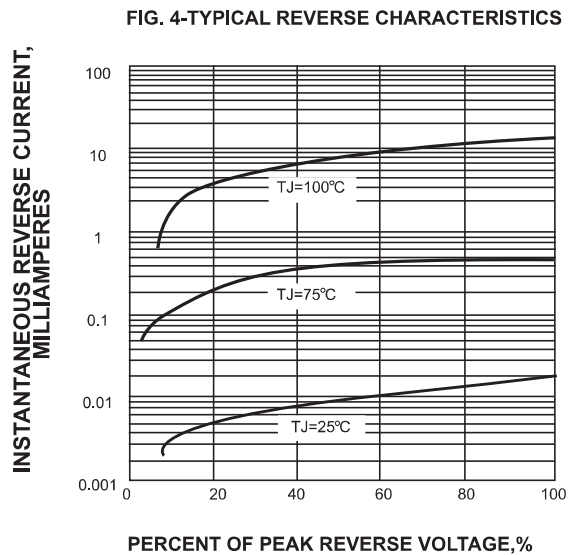
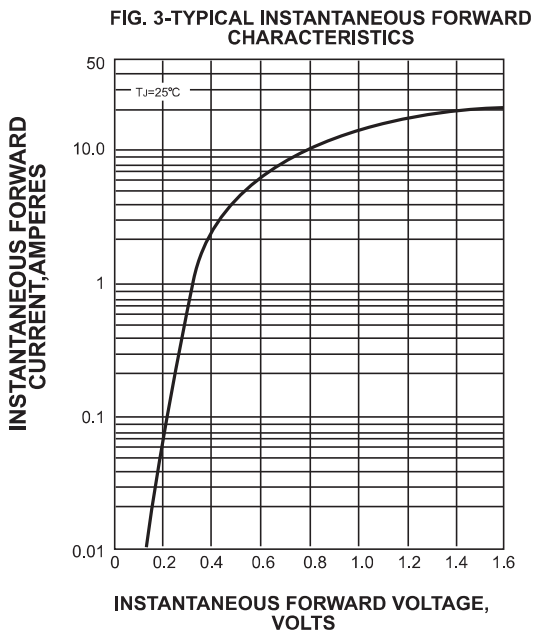
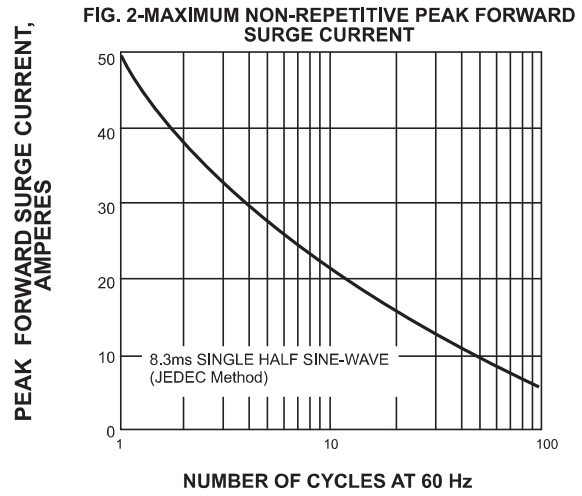
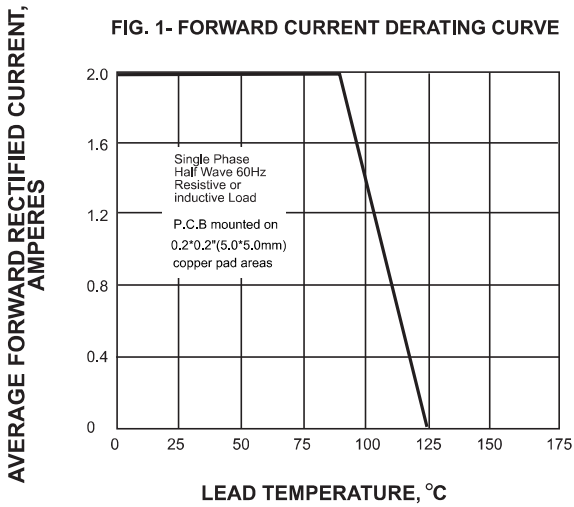
PowerDI-123

Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)



PARAMETER	SYMBOLS	DFLS240L	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum average forward rectified current at T_L (see fig.1)	$I_{(AV)}$	2.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Maximum instantaneous forward voltage at 1.0A	V_F	0.45	V
Maximum instantaneous forward voltage at 2.0A	V_F	0.50	
Maximum instantaneous forward voltage at 3.0A	V_F	0.65	
Maximum DC reverse current at rated DC blocking voltage	I_R	$T_A=25^{\circ}\text{C}$ 10.0	mA
		$T_J=85^{\circ}\text{C}$ 0.1	
Typical junction capacitance (NOTE 1)	C_J	100	pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	60	$^{\circ}\text{C}/\text{W}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

Rating and characteristic curves



Pinning information

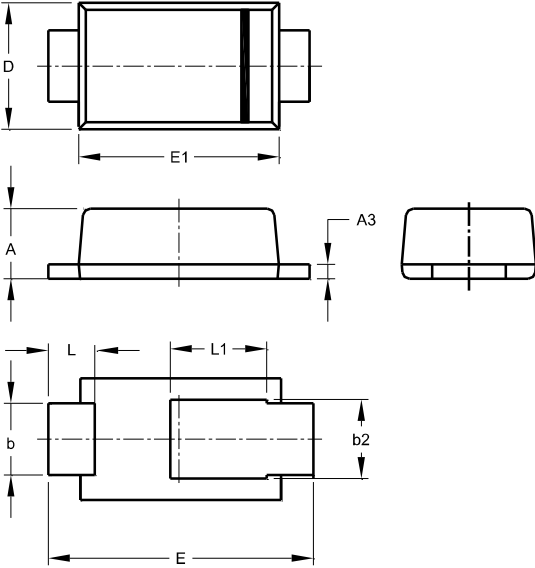
Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
DFLS240L	F06A

Package outline

PowerDI-123

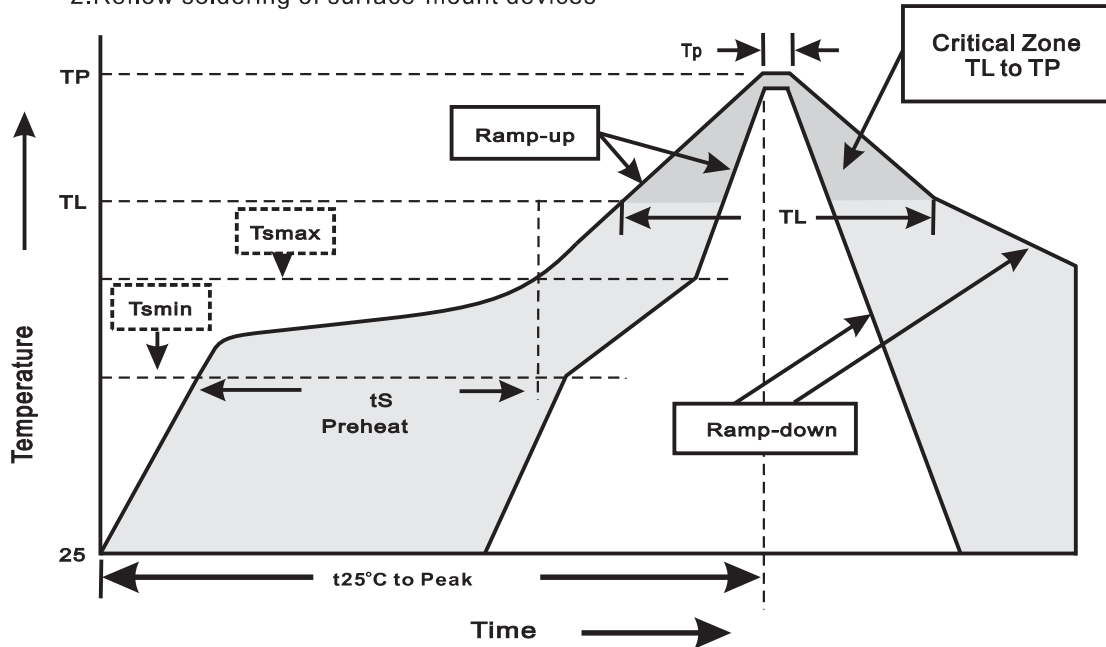


PowerDI-123		
Dim	Min	Max
A	0.85	1.05
A3	0.10	0.30
b	0.85	1.20
b2	1.05	1.35
D	1.65	1.95
E	3.50	3.90
E1	2.70	3.20
L	0.55	0.75
L1	1.40	1.60

All Dimensions in mm

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _p)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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