U.L. RECOGNIZED
File #E71639
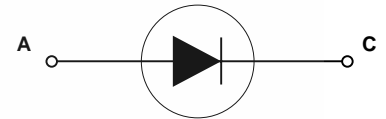
TO-220
Isolated

E7

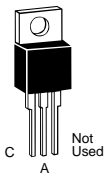A ———|>|——— C

Rectifiers

(15 A to 25 A)

General Description

Teccor manufactures 15 A rms to 25 A rms rectifiers with voltages rated from 200 V to 1000 V. Due to the electrically-isolated TO-220 package, these rectifiers may be used in common anode or common cathode circuits using only one part type, thereby simplifying stock requirements.

Teccor's silicon rectifiers feature glass-passivated junctions to ensure long term reliability and stability. In addition, glass offers a rugged, reliable barrier against junction contamination.

Features

- **Electrically-isolated packages**
- **High voltage capabilities — 200 V to 1000 V**
- **High surge capabilities — up to 350 A**
- **Glass-passivated junctions**

Type	Part Number — Isolated (TO-220) See "Package Dimensions" section for variations. (4)	V_{RRM} Volts MIN	V_R Volts MIN	$I_{F(AV)}$ (1) Amps MAX	$I_{F(RMS)}$ Amps MAX	I_{FSM} (2) Amps 60/50 Hz	I_{RM} (3) mA MAX $T_C=25\,°C$	I_{RM} $T_C=100\,°C$	I_{RM} $T_C=125\,°C$	V_{FM} Volts MAX $T_C=25\,°C$	I^2t Amps²Sec	$R_{\theta JC}$ °C/W TYP
15 A	D2015L	200	200	9.5	15	225/188	0.1	0.5	1	1.6	210	2.85
	D4015L	400	400	9.5	15	225/188	0.1	0.5	1	1.6	210	2.85
	D6015L	600	600	9.5	15	225/188	0.1	0.5	1	1.6	210	2.85
	D8015L	800	800	9.5	15	225/188	0.1	0.5	1	1.6	210	2.85
	DK015L	1000	1000	9.5	15	225/188	0.1	3		1.6	210	2.85
20 A	D2020L	200	200	12.7	20	300/255	0.1	0.5	1	1.6	374	2.5
	D4020L	400	400	12.7	20	300/255	0.1	0.5	1	1.6	374	2.5
	D6020L	600	600	12.7	20	300/255	0.1	0.5	1	1.6	374	2.5
	D8020L	800	800	12.7	20	300/255	0.1	0.5	1	1.6	374	2.5
	DK020L	1000	1000	12.7	20	300/255	0.1	3		1.6	374	2.5
25 A	D2025L	200	200	15.9	25	350/300	0.1	0.5	1	1.6	508	2.7
	D4025L	400	400	15.9	25	350/300	0.1	0.5	1	1.6	508	2.7
	D6025L	600	600	15.9	25	350/300	0.1	0.5	1	1.6	508	2.7
	D8025L	800	800	15.9	25	350/300	0.1	0.5	1	1.6	508	2.7
	DK025L	1000	1000	15.9	25	350/300	0.1	3		1.6	508	2.7

Test Conditions

I^2t — RMS surge (non-repetitive) forward current for 8.3 ms for fusing

$I_{F(AV)}$ — Average forward current

$I_{F(RMS)}$ — RMS forward current

I_{FSM} — Peak one-cycle surge current

I_{RM} — Peak reverse current

$R_{\theta JC}$ — Thermal resistance (steady state) junction to case

V_{FM} — Peak forward voltage at rated average forward current

V_R — DC blocking voltage

V_{RRM} — Peak repetitive reverse voltage

General Notes

- Operating temperature range (T_J) is -40 °C to +125 °C.

- Storage temperature range (T_S) is -40 °C to +125 °C.

- Lead solder temperature is a maximum of 230 °C for 10 seconds maximum at a minimum of 1/16" (1.59 mm) from case.

- The case temperature (T_C) is measured as shown on dimensional outline drawings in the "Package Dimensions" section of this catalog.

- Teccor's electrically-isolated TO-220 devices withstand a high potential test of 2500 V ac rms from leads to mounting tab over the operating temperature range.

- Typical Reverse Recovery Time (t_{rr}) is 4 μs. (Test conditions = 0.9 A forward current and 1.5 A reverse current.)

Electrical Specification Notes

(1) See Figure E7.3 for current rating at specified case temperature.

(2) For more than one full cycle rating, see Figure E7.4.

(3) $T_C = T_J$ for test conditions

(4) See package outlines for lead form configurations. When ordering special lead forming, add type number as suffix to part number.

Electrical Isolation

Electrical Isolation from Leads to Mounting Tab *	
V AC RMS	**TO-220 Isolated**
2500	Standard
4000	Optional **

* UL Recognized File #E71639
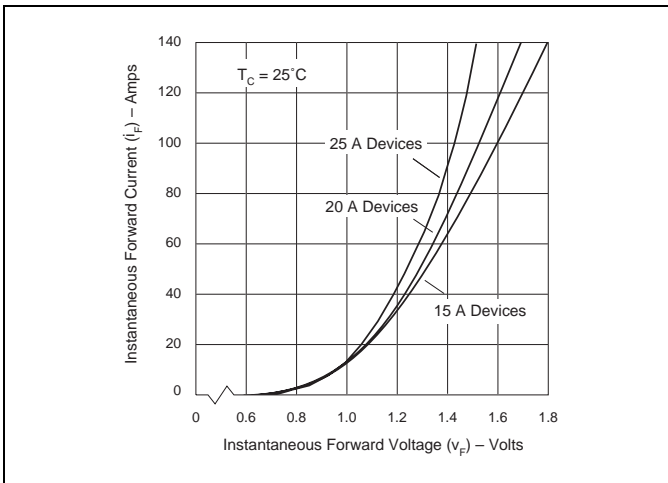** For 4000 V isolation, use "V" suffix in the part number.

Figure E7.1 Instantaneous Forward Current versus Forward Voltage (Typical)
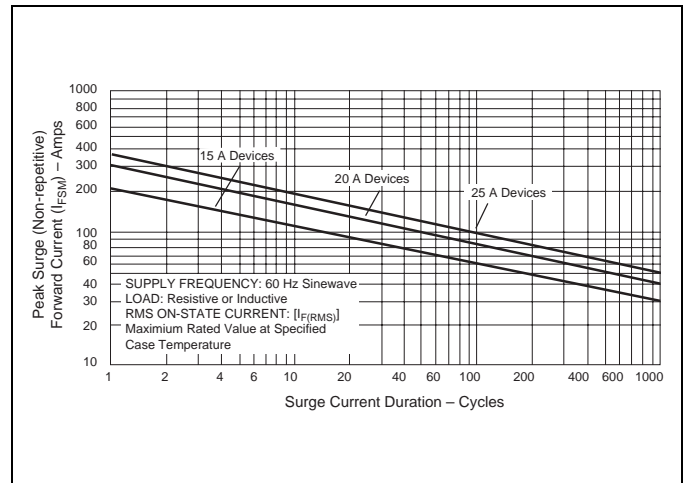

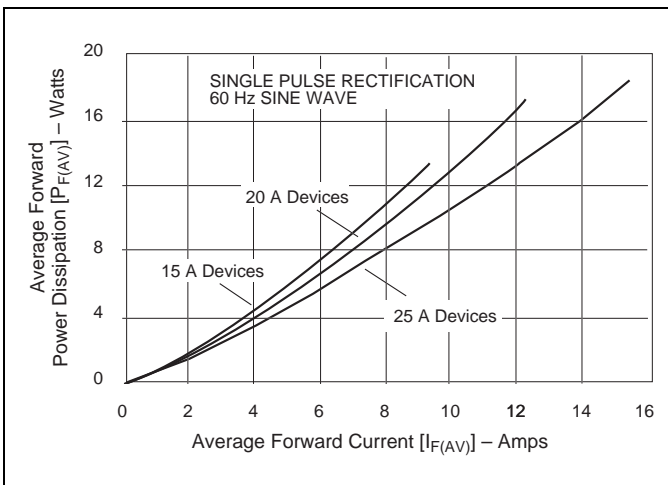Figure E7.4 Peak Surge Forward Current versus Surge Current Duration
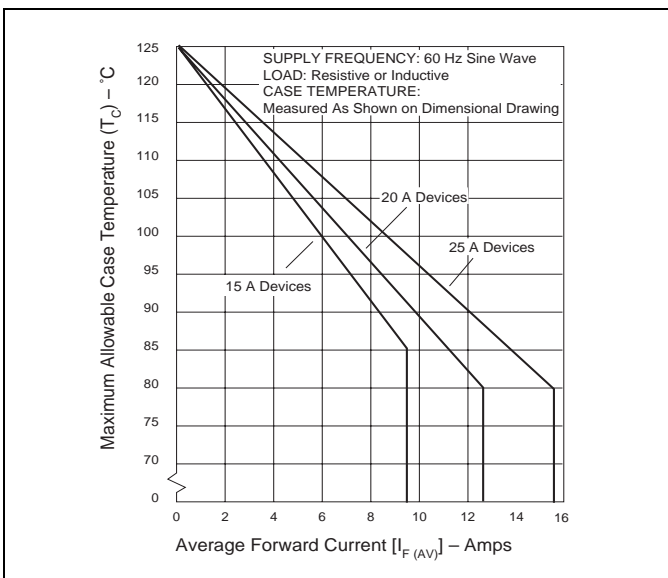

Figure E7.2 Forward Power Dissipation (Typical)

Figure E7.3 Maximum Allowable Case Temperature versus Average Forward Current

Notes