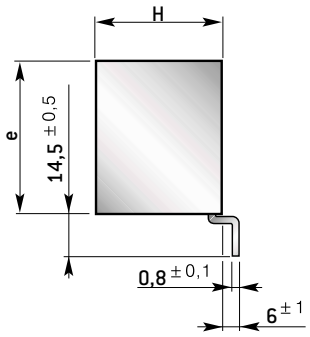
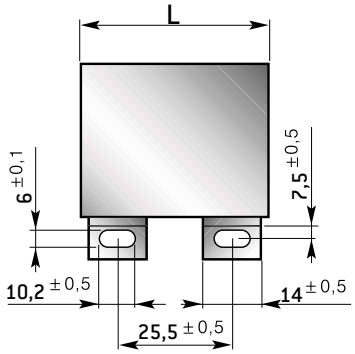
IGB 99

RoHS = W





Case *Boîtier*	L ±0,3	H ±0,3	E Max	R_{th}*
1	42,5	30	45	18
2	42,5	28	38	21
3	42,5	22	30	28

* R_{th} : thermal resistance in °C/W
* R_{th} : *résistance thermique en °C/W*

DIELECTRIC
metallized polypropylene

TECHNOLOGY
self-healing, non inductive
Plastic case
Resin sealed

Flame retardant resin (as per classification UL V0)

APPLICATION
SNUBBER capacitor IGBT and power semi-conductor

MARKING
model
capacitance
tolerance
rated voltage
date-code

DIÉLECTRIQUE
Polypropylène métallisé

TECHNOLOGIE
Autocicatrisable, non inductif
Boîtier thermoplastique
Obturé résine

Auto-extinguible (suivant classification UL V0)

APPLICATION
Condensateur "SNUBBER" IGBT et semi-conducteur de puissance

MARQUAGE
modèle
capacité
tolérance
tension nominale
date-code

ELECTRICAL CHARACTERISTICS — *CARACTÉRISTIQUES ÉLECTRIQUES*

Operating temperature		**– 40°C + 85°C**		*Température d'utilisation*
Climatic category		**40/85/56**		*Catégorie climatique*
Dissipation factor at 1 kHz		**≤ 5.10⁻⁴**		*Tangente de l'angle de pertes à 1 kHz*
Insulation resistance	for $C_R \leq 0,33\ \mu F$	**≥ 100000 MΩ**	*pour $C_R \leq 0,33\ \mu F$*	*Résistance d'isolement*
	for $C_R > 0,33\ \mu F$	**≥ 30000 MΩ**	*pour $C_R > 0,33\ \mu F$*	
Withstand voltage		**1,6 U_{RC} / 10 s**		*Tension de tenue*
Withstand voltage between leads and case		**3000 V - 50 Hz - 1 mn**		*Tension de tenue entre bornes réunies et masse*
Serie inductance		**≤ 25 nH**		*Inductance série*

For other characteristics see page 58 — *Autres caractéristiques voir page 58*

CAPACITANCE VALUES AND RATED VOLTAGE (D.C.) — *VALEURS DE CAPACITÉ ET DE TENSION (U_{RC})*

Voltage / *Tension* U_{RC}	850 V_{CC}				1000 V_{CC}				1200 V_{CC}				2000 V_{CC}				3000 V_{CC}			
Voltage / *Tension* U_{RA}	450 V_{CA}				480 V_{CA}				500 V_{CA}				630 V_{CA}				750 V_{CA}			
Dimensions (mm)	Case *Boîtier*	I_{RA} (1)	I^2t (2)	dV/dt (3)	Case *Boîtier*	I_{RA} (1)	I^2t (2)	dV/dt (3)	Case *Boîtier*	I_{RA} (1)	I^2t (2)	dV/dt (3)	Case *Boîtier*	I_{RA} (1)	I^2t (2)	dV/dt (3)	Case *Boîtier*	I_{RA} (1)	I^2t (2)	dV/dt (3)
47 nF																	3	4,5	0,04	1900
0,1 µF													3	6,3	0,08	1200	2	7,5	0,12	1500
0,15													3	8,5	0,15	1100	2	11	0,26	1500
0,22													2	12,5	0,32	1100	1	15	0,48	1400
0,33									3	12	0,35	800	2	16,5	0,57	1000				
0,47	3	10	0,46	600	3	12	0,49	660	2	17	0,7	800	1	21	0,89	850				
0,68	3	10	0,97	600	3	14	0,65	530	2	19	1	660	1	21	1,36	750				
1	3	10	0,33	300	2	17	1,4	530	1	22	2,2	660								
1,2	2	12	0,47	300	1	20	2	530	1	22	2,5	600								
1,5	2	15	0,74	250	1	20	3,1	530	1	22	3,1	530								
2	2	17	1	220	1	20	1,8	210												
2,2	2	19	1,2	220																
2,5	1	21	1,6	220																

± 20% - ± 10% - ± 5%
Capacitance tolerances / *Tolérances sur capacité*

(F = 100 kHz) — *(F = 100 kHz)*

(1) I_{RA} : Rms current in amperes for a max. temperature of 85°C on the capacitor in operation
(2) I^2t : Pulse current in A^2s
(3) dV/dt : Permitted voltage variation in V/µs

(1) I_{RA} : Courant eff. en ampères pour une température max. de 85°C sur le condensateur en fonctionnement
(2) I^2t : Courant impulsionnel en A^2s
(3) dV/dt : Variation admissible de la tension en V/µs

For intermediate value, the dimensions are those of the immediately superior value — *Toute valeur intermédiaire est exécutée dans les dimensions de la valeur immédiatement supérieure*

HOW TO ORDER — *EXEMPLE DE CODIFICATION À LA COMMANDE*

Model	Case	**UL :** Flame retardant	**W :** RoHS	Capacitance	Capa. tolerance	Rated voltage (V_{DC})
IGB 99	**1**	**–**	**–**	**1 µF**	**± 10%**	**1200 V**
Modèle	*Boîtier*	***UL :** Auto-extinguible*	***W :** RoHS*	*Capacité*	*Tolérance sur capacité*	*Tension nominale (V_{CC})*

TYPE 752P

IGBT SNUBBER CAPACITORS
METALIZED POLYPROPYLENE FILM DIELECTRIC CAPACITORS

G-FORCE
POWER CAPACITORS

FEATURES

- Low ESL and ESR
- Voltage ratings to 3,000 VDC / 920 VRMS
- Ripple current greater than 20 ARMS @ 85°C
- Across the bus 23 - 28 mm terminal spacing
- 105°C operating temperature
- dv / dt Capabilities to 3,300 V / µs

MAJOR APPLICATIONS:
Snubber, industrial controls, AC drives and inverters, UPS, charging systems, and other high voltage electronic applications.

PHYSICAL CHARACTERISTICS

CONSTRUCTION:
Non-inductive wound metalized polypropylene.

CASE:
Flame retardant molded plastic case and epoxy fill.

DIMENSIONS (in inches):

Case	Length	Width	Height
1	1.65	1.25	1.25
2	1.77	1.46	1.46

TERMINALS:
Tinned copper tabs.

MARKING:
Dearborn trademark, type or catalog number, capacitance, tolerance and voltage.

ELECTRICAL SPECIFICATIONS

CAPACITANCE RANGE:
0.10 µF to 2.5 µF

CAPACITANCE TOLERANCE:
±20%, ±10%, ±5%

VOLTAGE RANGE:
- 800 VDC to 3,000 VDC
- 460 VRMS to 920 VRMS

VOLTAGE DERATING:
At +105°C, 70% of the 85°C rating

OPERATING TEMPERATURE:
- -55°C to +105°C for DC operation
- -55°C to +85°C for AC operation

DISSIPATION FACTOR:
0.10% maximum

EQUIVALENT SERIES INDUCTANCE:
< 26nH

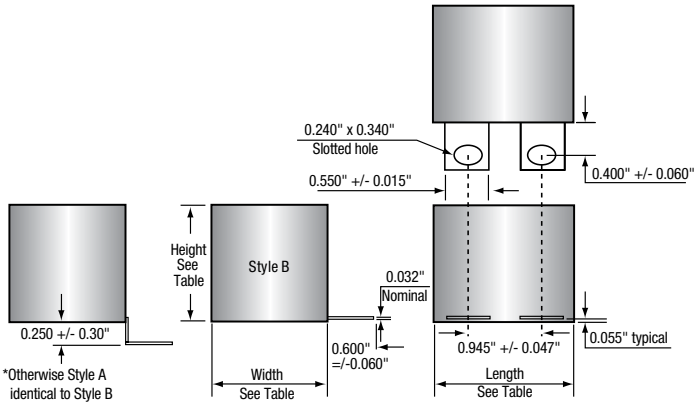
EQUIVALENT SERIES RESISTANCE:
See standard ratings table

DC VOLTAGE TEST:
150% of rated voltage for 2 minutes

INSULATION RESISTANCE:
Measure at 500 VDC after a 2 minute charge.

- At +25°C, 175,000 Megaohm-Microfarads, need not exceed 350,000 Megaohms
- At +85°C, 10,000 Megaohm-Microfarads, need not exceed 20,000 Megaohms

DIMENSIONS (in inches)



Consult factory for other terminal configurations and/or spacing.

STANDARD RATINGS

Capacitance		Case Size	Typical ESR	Max. Ripple Curretn at 100kHz (Amp)		I Peak (Amp)	dv / dt
µF	Code		MΩ 100kHz	50°C	85°C		(V / µs)
800 VDC / 460 VRMS* (Voltage Code 800)							
0.39	394	1	9.9	16.2	13.0	300	785
0.47	474	1	8.4	17.8	14.2	370	785
0.56	564	1	8.3	19.4	15.5	380	675
0.68	684	1	9.8	21.5	17.2	385	565
0.75	754	1	9.0	22.5	18.0	425	565
0.82	824	1	8.3	23.6	18.9	460	565
1.0	105	1	6.9	26.0	20.8	565	510
1.2	125	2	6.7	26.0	20.8	595	435
1.4	145	2	5.9	26.0	20.8	695	425
1.5	155	2	5.5	26.0	20.8	745	425
1.8	185	2	6.5	26.0	20.8	720	400
2.0	205	2	6.0	26.0	20.8	800	345
2.2	225	2	5.5	26.0	20.8	880	335
2.5	255	2	4.9	26.0	20.8	1000	335
1,000 VDC / 460 VRMS* (Voltage Code 1K0)							
0.33	334	1	9.6	14.9	11.9	269	895
0.39	394	1	9.9	16.2	13.0	300	785
0.47	474	1	8.4	17.8	14.2	370	785
0.56	564	1	8.3	19.4	15.5	380	675
0.68	684	1	9.8	21.5	17.2	385	565
0.75	754	1	9.0	22.5	18.0	425	565
0.82	824	1	8.3	23.6	18.9	460	565
1.0	105	1	6.9	26.0	20.8	565	510
1.2	125	2	6.7	26.0	20.8	595	435
1.4	145	2	5.9	26.0	20.8	695	425
1.5	155	2	5.5	26.0	20.8	745	425
1,200 VDC / 460 VRMS* (Voltage Code 1K2)							
0.27	274	1-2	11.6	13.5	10.8	240	895
0.33	334	1-2	9.6	14.9	11.9	269	895
0.39	394	1-2	9.9	16.2	13.0	300	785
0.47	474	1-2	8.4	17.8	14.2	370	785
0.56	564	1-2	8.3	19.4	15.5	380	675
0.68	684	1	9.8	21.5	17.2	385	565
0.75	754	1	9.0	22.5	18.0	425	565
0.82	824	1	8.3	23.6	18.9	460	565
1.0	105	1	6.9	26.0	20.8	565	510
1.2	125	2	6.7	26.0	20.8	595	435
1.4	145	2	5.9	26.0	20.8	695	425
1.5	155	2	5.5	26.0	20.8	745	425
1,600 VDC / 920 VRMS* (Voltage Code 1K6)							
0.10	104	1	16.8	8.2	6.6	308	3080
0.12	124	1	14.1	9.0	7.2	370	2945
0.15	154	1	9.8	10.1	8.1	460	2790
0.18	184	1	9.7	11.0	8.8	555	2635
0.22	224	1	9.4	13.0	10.4	585	2340
0.27	274	1-2	7.8	14.4	11.5	600	2040
0.33	334	1-2	8.0	15.9	12.7	660	1845
0.39	394	1-2	6.9	17.4	13.9	860	1750
0.47	474	1-2	7.6	19.1	15.2	860	1565
0.56	564	1-2	6.5	21.9	17.5	1030	1475

Additional capacitance values, voltages, and tolerances are available upon request.

* AC voltage rating is at 400Hz.