

# Insulated Gate Bi-polar Transistors Capsule Types

As a pioneer of Press-Pack IGBT technology, we are able to offer a range of class leading devices with voltage ratings of 2.5 kV (1.25 kV DC link) and 4.5 kV (2.8 kV DC link). The construction of these devices is totally free from wire and solder bonds which all but eliminates the problems of mechanical fatigue associated with conventional modules. Internal stray inductance in both the gate connections and emitter connections is vastly reduced when compared to conventional modules leading to improved ruggedness and short circuit behavior, which is further enhanced by direct cooling of the emitter side of the chip

These devices are based on a state of the art soft punch through (PT<sup>+</sup>) process, which yields exceptional values  $V_{CE(sat)}$  and quiet switching behavior despite the high voltage ratings, yet the devices feature a positive temperature coefficient making them suitable for reliable parallel operation. Devices available with or without integral anti-parallel diode – a range of complimentary extra fast recovery diodes optimised for use with these IGBTs are available now with more based on exciting new technologies coming soon, please contact your representative for more information.

They exhibit exceptional power cycling performance – typically an order of magnitude better than modules – making them highly suited to applications such as induction heating and mass transits where there are repeated cyclic power demands. They are explosion rated making them a good choice in critical applications such as mining, the petro-chemical industry, and transportation applications. They have a stable short circuit failure mode which, as well as safety benefits, makes them an ideal choice for medium and high voltage applications where series connection is required. Press-pack construction is the obvious choice where series connection is needed and the short circuit failure mode allows for the design in of n+ redundancy.

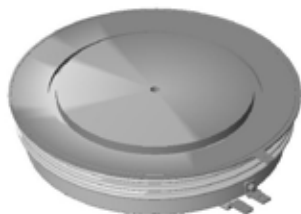
Typical examples include HVDC, Active VAr controllers and medium voltage drives. They are largely backwardly compatible with standard 2.5 kV and 4.5 kV GTOs in many applications such as AC drives. This makes these parts a simple and economical path to upgrade or refurbish equipment that previously used GTOs, such as locomotives or medium voltage drives. They are suitable for all cooling options including direct liquid immersion. Complementary gate drives, mounting clamps and passive components available.

Type Part No. ➤ New *	$V_{CES}$ V	$I_C$ A	$I_{CM}$ A	$V_{CE(sat)}$ $I_C = I_C$ V	IGBT Switching typical		$V_F$ $I_F = I_C$ V	Diode Recovery typical		$T_{JM}$ °C	$R_{thJK}$		Fig. No.
					$E_{ON}$ J	$E_{OFF}$ J		$I_{rm}$ A	$Q_r$ μC		IGBT K/W	Diode K/W	
➤ T0160NB45A	4500	160	320	3.45	1.1	0.8	4.00	146	200	125	0.0700	0.1560	W40
➤ T0240NB45E	4500	240	480	3.70	1.5	1.1	N/A	N/A	N/A	125	0.0546	N/A	W40
➤ T0340VB45G	4500	340	680	3.60	2.3	1.7	3.50	292	380	125	0.0364	0.0576	W67
➤ T0360NB25A	2500	360	720	2.95	0.9	0.6	2.25	207	297	125	0.0541	0.0730	W40
➤ T0500NB25E	2500	500	1000	2.90	1.3	0.9	N/A	N/A	N/A	125	0.0386	N/A	W40
➤ T0510VB45E	4500	510	1020	3.60	3.4	2.5	N/A	N/A	N/A	125	0.0243	N/A	W67
➤ T0570VB25G	2500	570	1140	2.95	1.4	1.0	2.05	330	475	125	0.0338	0.0365	W67
➤ T0600TB45A	4500	600	1200	3.70	3.8	2.8	3.90	496	646	125	0.0218	0.0432	W41
➤ T0800EB45G	4500	800	1600	3.60	5.3	3.9	3.50	700	912	125	0.0156	0.0247	W44
➤ T0800TB45E	4500	800	1600	3.60	5.3	3.9	N/A	N/A	N/A	125	0.0156	N/A	W41
➤ T0850VB25E	2500	850	1700	2.90	2.1	1.5	N/A	N/A	N/A	125	0.0225	N/A	W67
➤ T0900EB45A	4500	900	1800	3.70	5.6	4.2	3.90	730	950	125	0.0146	0.0288	W44
➤ T1200TB25A	2500	1200	2400	3.00	2.8	2.0	2.50	660	950	125	0.0169	0.0292	W41
➤ T1200EB45E	4500	1200	2400	3.60	7.9	5.9	N/A	N/A	N/A	125	0.0104	N/A	W44
➤ T1500TB25E	2500	1500	3000	2.90	3.7	2.6	N/A	N/A	N/A	125	0.0129	N/A	W41
➤ T1600GB45G	4500	1600	3200	3.60	10.5	7.8	3.50	1345	1750	125	0.0078	0.0123	W45
➤ T1800GB45A	4500	1800	3600	3.70	11.3	8.4	3.90	1460	1900	125	0.0073	0.0144	W45
➤ T2250AB25E	2500	2250	4500	2.90	5.6	4.0	N/A	N/A	N/A	125	0.0085	N/A	W71
➤ T2400GB45E	4500	2400	4800	3.60	15.8	11.7	N/A	N/A	N/A	125	0.0052	N/A	W45

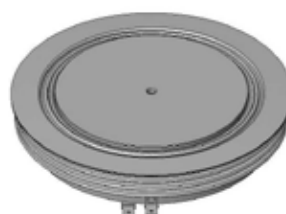
\* provisional data



W40 Weight 430 g



W41 Weight 1200 g



W44 Weight 1200 g



W45 Weight 2000 g



W67 Weight 650 g



W71 Weight 1500 g