| @ *f*<br>Parameter | | … Z<br>Symbol | *f* ›<br>Rating | % y<br>Unit |
|---|---|---|---|---|
| Collector-Emitter Voltage | | $V_{CES}$ | 650 | V |
| Gate-Emitter Voltage | | $V_{GES}$ | f 30 | V |
| Continuous Collector Current | $T_C$=25 | $I_C$ | 80 | A |
| | $T_C$=100 | | 40 | A |
| Pulsed Collector Current , Limited by $T_{Jmax}$ | | $I_{CM}$ | 160 | A |
| Continuous Diode Forward Current | $T_C$=25 | $I_F$ | 80 | A |
| | $T_C$=100 | | 40 | A |
| Diode Repetitive Peak Forward Current | | $I_{FRM}$ | 160 | A |
| Short circuit withstand time | | $t_{sc}$ | 9 | us |
| Power Dissipation | $T_C$=25 | $P_D$ | 395 | W |
| Storage Temperature Range | | $T_{STG}$ | -55 to +175 | |
| Maximum Temperature for Soldering | | $T_L$ | 260 | |
| Maximum Junction-to-Ambient | | R $_{JA}$ | 40 | /W |

Maximum IGBT Junction-to-Case/W 35-8.4(R)]TJ /TT3 1 Tf 7.0172 0 0 7.02 338376 437.4803 Tm 0 Tc 0 Tw <021

CEC I

| @ *f*<br>Parameter | … Z<br>Symbol | y ¡ Ú ^<br>Test Conditions | | Â 4 ›<br>Min | Á º ›<br>Typ | Â Ý ›<br>Max | % y<br>Unit |
|---|---|---|---|---|---|---|---|
| Turn-On Delay Time | $t_{d(on)}$ | | $T_C$=25 | | 32 | | ns |
| | | | $T_C$=175 | | 30 | | |

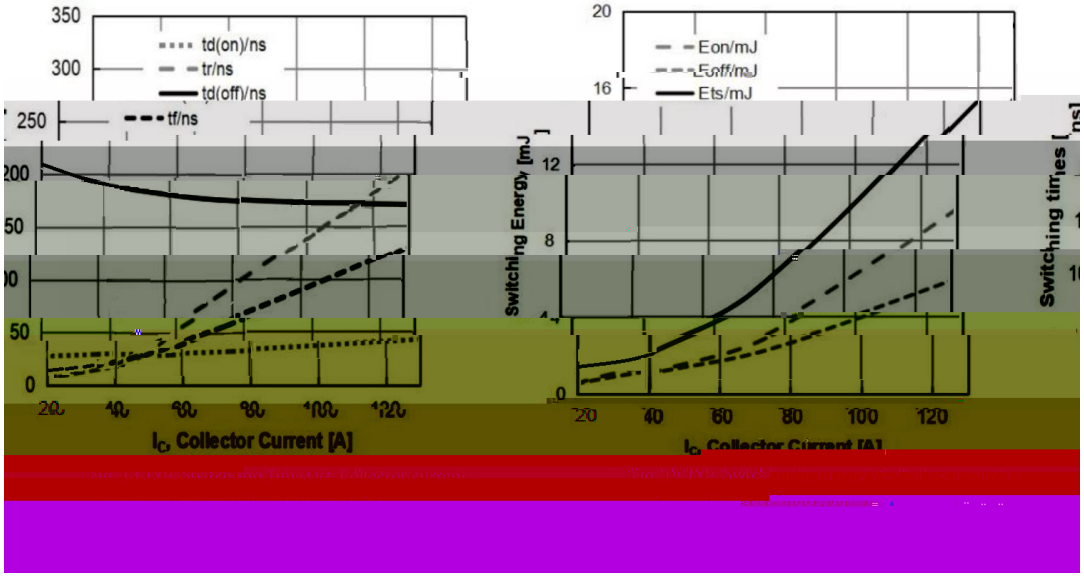
Turn-On Rise Time t

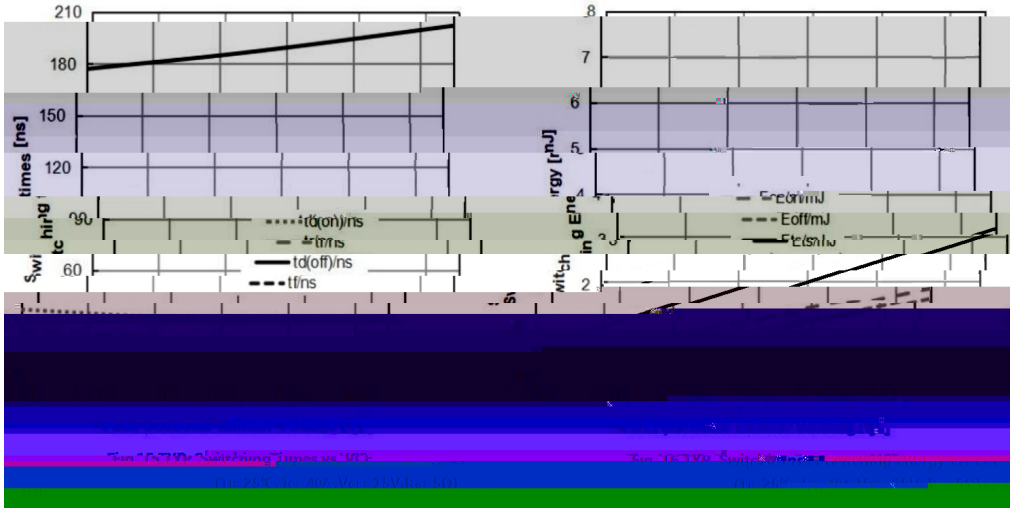
$V_{GE}$=15V,
$V_{CE}$=400V
$I_C$=40A,
$R_G$=5
Inductive
Load

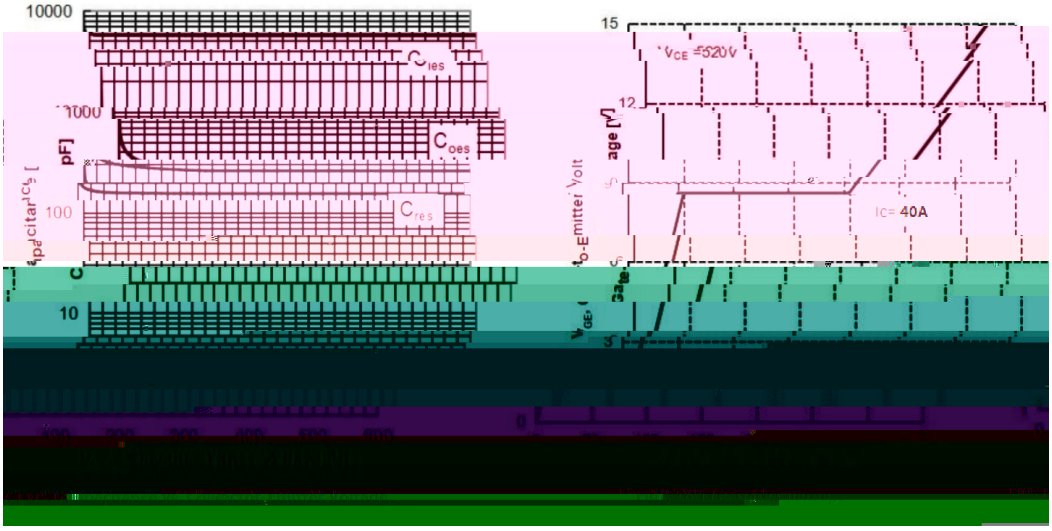
Ô ? d • Ž ¢

Ô ? d • Ž ¢

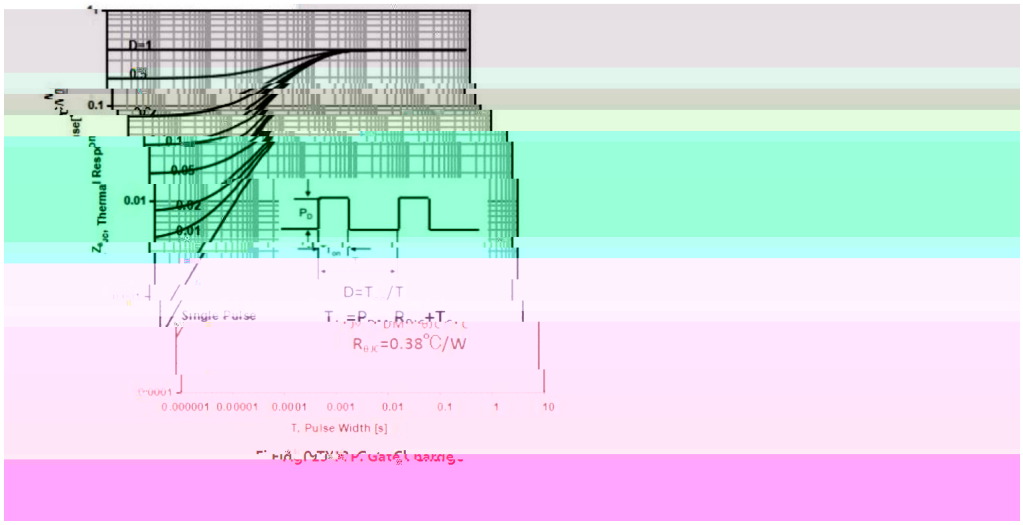
## Ô ? d • Ž ¢ / Electrical Characteristic Curve



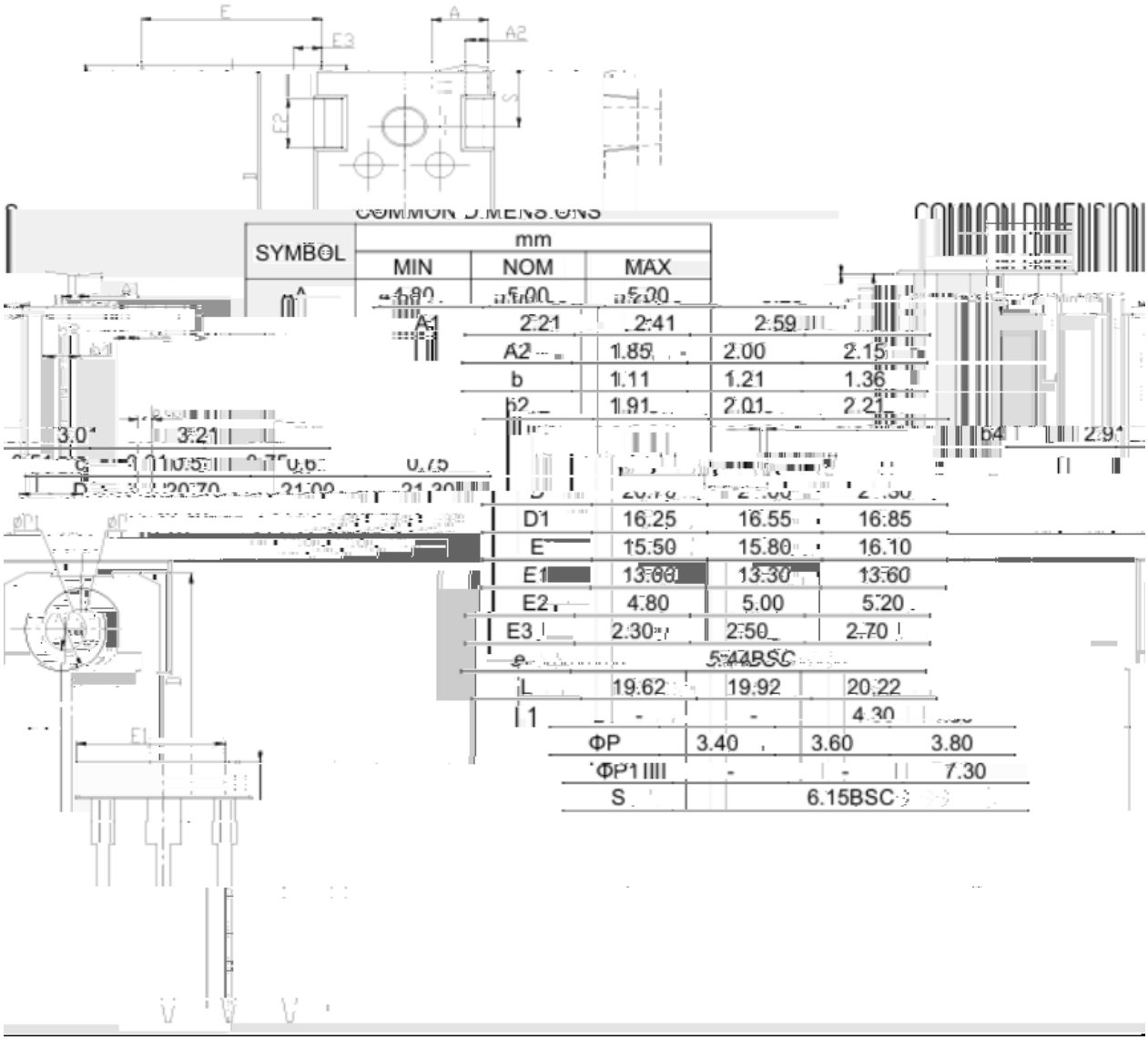



## Ô ? d • Ž ¢ / Electrical Characteristic Curve



## Ø ¤ = ) ¢ / Package Dimensions



| SYMBOL | mm | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| A | 4.80 | 5.00 | 5.20 |
| A1 | 2.21 | 2.41 | 2.59 |
| A2 | 1.85 | 2.00 | 2.15 |
| b | 1.11 | 1.21 | 1.36 |
| b2 | 1.91 | 2.01 | 2.21 |
| D | 20.70 | 21.00 | 21.30 |
| D1 | 16.25 | 16.55 | 16.85 |
| E | 15.50 | 15.80 | 16.10 |
| E1 | 13.00 | 13.30 | 13.60 |
| E2 | 4.80 | 5.00 | 5.20 |
| E3 | 2.30 | 2.50 | 2.70 |
| e | | 5.44BSC | |
| L | 19.62 | 19.92 | 20.22 |
| L1 | - | - | 4.30 |
| ΦP | 3.40 | 3.60 | 3.80 |
| ΦP1 | - | - | 7.30 |
| S | | 6.15BSC | |

## , M y ƒ / Marking Instructions




ª ¢ y

BR y ¸ [ W A

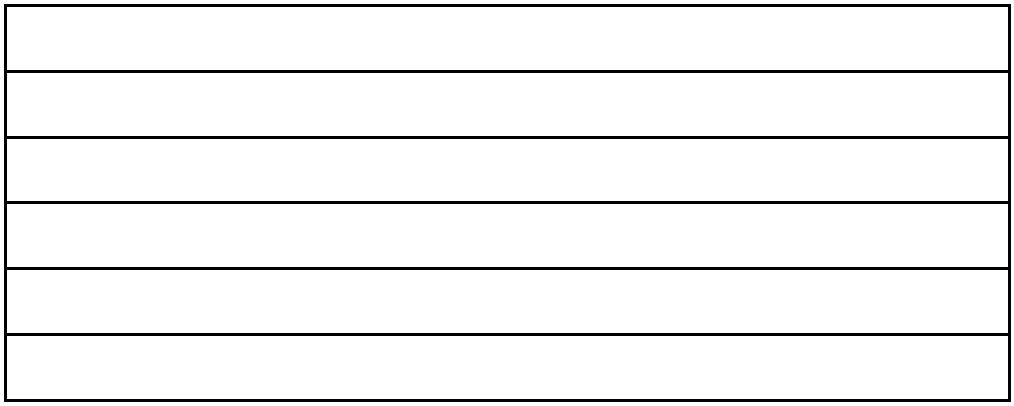
- ( 4 ' . ' y º Z W A

y ÿ D Z W A k š ÿ D Z J

Note:

| | |
|---|---|
| BR: | Company Code |
| GB40N65AHA: | Product Type Code |
| ****: | Lot No. Code, code change with Lot No. |

## G PD t … • Ž ¢ ( x / ) / Temperature Profile for Dip Soldering(Pb-Free)



ª ¢ y

1o• Ä ½ “ † 25 ½150 - k ž • 60 ½90sec;

2o• Q › “ † 255 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:25~150 - , Time:60~90sec.

2.Peak Temp.:255 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

## ÂD /Cã p ¯ » ] / Resistance to Soldering Heat Test Conditions

“ † y 270 r5 - ž • y 10 r1 sec. Temp.:270±5 Time:10±1 sec

## G P á / Packaging SPEC.

ì ’ x / TUBE

| Package Type 7>û ˜ E | Units ;>û ¦H | Dimension ;>û p . (unit ÆEmm³) |
|---|---|---|